

C0. Introduction

C0.1

(C0.1) Give a general description and introduction to your organization.

Minerva Foods is the leading beef exporter in South America and has adjacent operations in animal protein processing and sales, and live cattle exports. A Brazilian-based, publicly traded corporation, Minerva Foods has a global presence, exporting to more than 100 countries on five continents. At the end of 2021, the second year of the new coronavirus pandemic, Minerva Foods' net revenue was BRL 26.9 billion.

The Company sources, processes and sells animal protein through an integrated, geographically diversified and flexible business platform comprising 25 beef slaughter plants in Brazil, Argentina, Colombia, Paraguay and Uruguay. In 2021, Minerva Foods expanded into Oceania with the acquisition of two sheep slaughter plants in Australia.

Completing its assets are 14 distribution centers in South America (9 in Brazil, 2 in Chile, 1 in Argentina, 1 in Colombia and 1 in Paraguay), 16 sales offices in key markets (Algeria, Australia, Chile, China, Dubai, Egypt, United States, Hong Kong, England, Italy, Lebanon, New Zealand, Russia, Singapore and Taiwan), one meat processing plant (Minerva Foods' Fine Foods) in Brazil and two operating under the Swift brand in Argentina.

Starting a new chapter in its 30-year history, in 2021 the Company refreshed its brand to reflect the evolution that has made Minerva Foods a modern, disruptive and innovative business that is committed to creating a sustainable food future for our planet. Each site now displays the renovated Minerva Foods brand. The Company has a 23% market share in South America with a workforce of 21,215 employees and in 2021 produced and processed 1,001 million metric tons of beef across all regions

As part of its business model, the Company supports the development of more than 21,000 cattle suppliers to meet the requirements of mature markets on issues such as traceability and environmental, labor and land-use compliance. The Company's sustainability/ESG agenda is composed of three pillars: Dedication to the Planet, Prosperity of Our People and Product Quality and Respect for Life. In 2021, focusing on the environmental pillar 'Dedication to the Planet', the Company launched its Commitment to Sustainability.

Minerva Foods is deeply committed to sustainability in such a way that this value is embedded in its institutional culture. In April 2021, Minerva Foods unveiled a number of goals and targets relating to climate change, a focus area in the Company's sustainability strategy.

These goals cover the Company's own operations and the broader value chain and aim to achieve net zero emissions by 2035—15 years earlier than called for in the Paris Agreement—among other medium-term ambitions.

More information about Minerva Foods is available in the 2021 Sustainability Report, on the institutional website and on the investor relations website

C0.2

(C0.2) State the start and end date of the year for which you are reporting data and indicate whether you will be providing emissions data for past reporting years.

Reporting year

Start date

January 1 2022

End date

December 31 2022

Indicate if you are providing emissions data for past reporting years

Yes

Select the number of past reporting years you will be providing Scope 1 emissions data for

1 year

Select the number of past reporting years you will be providing Scope 2 emissions data for

1 year

Select the number of past reporting years you will be providing Scope 3 emissions data for

Not providing past emissions data for Scope 3

C0.3

(C0.3) Select the countries/areas in which you operate.

- Argentina
- Australia
- Brazil
- Chile
- Colombia
- Paraguay
- United States of America
- Uruguay

C0.4

(C0.4) Select the currency used for all financial information disclosed throughout your response.

BRL

C0.5

(C0.5) Select the option that describes the reporting boundary for which climate-related impacts on your business are being reported. Note that this option should align with your chosen approach for consolidating your GHG inventory.

Operational control

C-AC0.6/C-FB0.6/C-PF0.6

(C-AC0.6/C-FB0.6/C-PF0.6) Are emissions from agricultural/forestry, processing/manufacturing, distribution activities or emissions from the consumption of your products – whether in your direct operations or in other parts of your value chain – relevant to your current CDP climate change disclosure?

	Relevance
Agriculture/Forestry	Both own land and elsewhere in the value chain [Agriculture/Forestry only]
Processing/Manufacturing	Both direct operations and elsewhere in the value chain [Processing/manufacturing/Distribution only]
Distribution	Both direct operations and elsewhere in the value chain [Processing/manufacturing/Distribution only]
Consumption	Yes [Consumption only]

C-AC0.7/C-FB0.7/C-PF0.7

(C-AC0.7/C-FB0.7/C-PF0.7) Which agricultural commodity(ies) that your organization produces and/or sources are the most significant to your business by revenue? Select up to five.

Agricultural commodity

Cattle products

% of revenue dependent on this agricultural commodity

More than 80%

Produced or sourced

Sourced

Please explain

The Company sources, processes and sells animal protein through an integrated, geographically diversified and flexible business platform comprising 25 beef slaughter plants in Brazil, Argentina, Colombia, Paraguay and Uruguay. In 2021, Minerva Foods expanded into Oceania with the acquisition of two sheep slaughter plants in Australia.

Completing its assets are 14 distribution centers in South America (9 in Brazil, 2 in Chile, 1 in Argentina, 1 in Colombia and 1 in Paraguay), 16 sales offices in key markets (Algeria, Australia, Chile, China, Dubai, Egypt, United States, Hong Kong, England, Italy, Lebanon, New Zealand, Russia, Singapore and Taiwan), one meat processing plant (Minerva Foods' Fine Foods) in Brazil and two operating under the Swift brand in Argentina.

C0.8

(C0.8) Does your organization have an ISIN code or another unique identifier (e.g., Ticker, CUSIP, etc.)?

Indicate whether you are able to provide a unique identifier for your organization	Provide your unique identifier
Yes, a Ticker symbol	BEEF3 - Brazilian Stock Exchange (B3)

C1. Governance

C1.1

(C1.1) Is there board-level oversight of climate-related issues within your organization?

Yes

C1.1a

(C1.1a) Identify the position(s) (do not include any names) of the individual(s) on the board with responsibility for climate-related issues.

Position of individual or committee	Responsibilities for climate-related issues
Other, please specify (Finance and Risk Committee)	The Finance and Risk Committee assists the Board of Directors in monitoring and evaluating the effectiveness of the financial policies applied by the Company, in the fulfillment of its responsibilities, including issuing recommendations to the Board of Directors and Executive body on risks and mitigation strategies, in order to check greater efficiency and quality in the decisions taken by the Board of Directors, as well as in monitoring and evaluating the effectiveness of the policies applied by the Company, including the Risk Management Policy. In addition, the Committee also assists in the implementation of mitigation measures for risk factors to which the Company is exposed, as well as in the analysis of the Brazilian and world economic situation, with its potential effects on the Company's financial, operational, and strategic position. The Finance and Risk Committee, together with the Company's Board of Directors, must constantly analyze the risks to which the Company is exposed and that may adversely affect its business, financial situation and the results of its operations, monitoring changes in the macroeconomic and sectorial scenario that may influence its activities, providing, whenever necessary, all information regarding the limitation of the Company's exposure to the risks to which it is submitted. The committee is composed of the CEO, CFO and 5 more committee members.
Other, please specify (Strategic and Investment Committee)	The purpose of the Strategic and Investment Committee is to analyze and issue recommendations for proposed strategic and business plans, as well as other guidelines related to the Company's strategies to be submitted to the Board of Directors. In addition, the Strategic and Investment Committee is responsible for identifying and analyzing possible business opportunities, as well as debating other issues that the Board of Directors deems pertinent, with a view to achieving greater efficiency and quality in the decisions taken by the Board of Directors. The committee is composed of the CEO, CFO and 5 more committee members.
Other, please specify (Innovation and Sustainability Advisory Board)	The Innovation and Sustainability Advisory Board is a non-statutory collegiate advisory body, linked to the Company's Executive Board, responsible for monitoring and discussing practices related to socio-environmental sustainability, corporate governance, and innovation, to provide greater transparency, efficiency, and assertiveness of Minerva Foods initiatives. This board meets monthly and is composed of the CEO, CFO, CTO, HR Director, Legal Director, Institutional Relations Director, Executive Managers of Sustainability, Renove Program and of MyCarbon and 2 independent members.
Other, please specify (Sustainability Commission)	The Sustainability Commission aims to drive the sustainability agenda across the organization and assist in decision-making related to socio-environmental issues. In addition, oversees and guides the execution of the Company's transition to a low carbon economy plan and monitors the progress towards the targets settled at the Commitment to Sustainability. The Committee is composed by CEO, CFO, CTO, HR Director, Legal Director, Institutional Relations Director, Executive Managers of Sustainability, Renove Program and of MyCarbon. This Committee was responsible for the decision to publicly announce Minerva Foods' commitment to the sustainability in April 2021. The main objective of the Company's Commitment to Sustainability is to drive Minerva Foods' transition to a low-carbon economy, achieving carbon neutrality by 2035, 15 years ahead of the Paris Agreement. To achieve this, the Company is working on three major axes: 1. Eco-efficiency in controlled operations; 2. Combating illegal deforestation in the value chain; and 3. Development of the Renove program on partner farms.
Chief Executive Officer (CEO)	The Company's CEO is responsible for important decisions on matters that may affect the strategy for the long-term objective expressed in the Commitment to Sustainability (net zero emissions by 2035), commercial objectives and mobilization of necessary resources. It is the central point of communication between the Company's operations and the Board of Directors and monitors the evolution of plans outlined and indicators of the sustainability agenda.
Chief Operating Officer (COO)	The COO acts as direct support from the CEO to implement the Company's strategic plan, directing the areas under its management to comply with the policies established by the Company and its commitment. The COO is responsible for identifying priority demands and referring them to the CEO's considerations, such as those related to climate issues.
Other, please specify (Executive Managers of Sustainability)	The Executive Sustainability Managements report to the Institutional Relations Board and are responsible for identifying and managing risks and opportunities related to socio-environmental practices and coordinating the implementation of plans linked to the strategy for the long-term objective expressed Commitment to Sustainability. The Sustainability Executive Management, responsible for managing risks and opportunities related to the topic, including climate change, works to implement the Company's strategy to mitigate GHG emissions and disseminate information to stakeholders. The Sustainability Executive Management, responsible for the Renove program, runs projects to promote engagement with rural producers in the implementation of regenerative farming practices that increase productivity and income, in addition to bringing benefits to the environment through low carbon emissions and sustainable intensification of the livestock activity.
Other, please specify (Industrial Director)	Minerva Foods has a corporate area for environmental issues and supervisors allocated to each industrial plant responsible for managing atmospheric emissions, water use, effluent treatment, waste disposal and energy consumption, aiming the eco-efficiency of the Company's operations, directly contributing to the mitigation of GHG emissions for scopes 1 , 2 and 3. Investments to improve environmental indicators are continuous, and it is up to the Industrial Director to approve, oversees and encourage related projects. In 2022, Minerva Foods modernized an Effluent Treatment Station at the José Bonifácio business unit, in Brazil, with the aim of improving treatment efficiency and reducing GHG emissions. Other initiative of GHG reduction emission at this plant still under investigation. This important action is in line with Minerva Foods' Sustainability Commitment.

C1.1b

(C1.1b) Provide further details on the board's oversight of climate-related issues.

Frequency with which climate-related issues are a scheduled agenda item	Governance mechanisms into which climate-related issues are integrated	Scope of board-level oversight	Please explain
Sporadic - as important matters arise	<p>Reviewing and guiding strategy</p> <p>Overseeing and guiding the development of a transition plan</p> <p>Monitoring the implementation of a transition plan</p> <p>Overseeing the setting of corporate targets</p> <p>Monitoring progress towards corporate targets</p> <p>Overseeing value chain engagement</p> <p>Reviewing and guiding the risk management process</p>	<Not Applicable>	<p>Minerva Foods' Board of Directors is an agent for guiding the Company towards the best corporate sustainability practices to generate long-term value for all its stakeholders. The Board of Directors supports the promotion of Minerva Foods' corporate values, sustainability being one of them, that permeates all policies and the businesses strategy.</p> <p>Minerva Foods has a Finance and Risk Committee, linked to the Board of Directors. The Finance and Risk Committee assists the Board of Directors in monitoring and evaluating the effectiveness of the financial policies applied by the Company, in the fulfillment of its responsibilities, including issuing recommendations to the Board of Directors and Executive body on risks and mitigation strategies, in order to check greater efficiency and quality in the decisions taken by the Board of Directors, as well as in monitoring and evaluating the effectiveness of the policies applied by the Company, including the Risk Management Policy. In addition, the Committee also assists in the implementation of mitigation measures for risk factors to which the Company is exposed, climate change included, as well as in the analysis of the Brazilian and world economic situation, with its potential effects on the Company's financial, operational, and strategic position. The Finance and Risk Committee, together with the Company's Board of Directors, must constantly analyze the risks to which the Company is exposed and that may adversely affect its business, financial situation and the results of its operations, monitoring changes in the macroeconomic and sectorial scenario that may influence its activities, providing, whenever necessary, all information regarding the limitation of the Company's exposure to the risks to which it is submitted.</p> <p>Additionally, the Strategic and Investment Committee aims to analyze and issue recommendations for the proposed strategic and business plans, as well as other guidelines and orientations related to Company's strategies to be submitted to the Board of Directors.</p> <p>At the executive board level, there is the Sustainability and Innovation Advisory Board and the Sustainability Commission. The second one was responsible for the decision to publicly announce Minerva Foods' commitment to the sustainability in April 2021. The main objective of the Company's Commitment to Sustainability is to drive Minerva Foods' transition to a low-carbon economy, achieving carbon neutrality by 2035, 15 years ahead of the Paris Agreement.</p>

C1.1d

(C1.1d) Does your organization have at least one board member with competence on climate-related issues?

	Board member(s) have competence on climate-related issues	Criteria used to assess competence of board member(s) on climate-related issues	Primary reason for no board-level competence on climate-related issues	Explain why your organization does not have at least one board member with competence on climate-related issues and any plans to address board-level competence in the future
Row 1	Yes	The criteria used by the company assess competence of board member(s) on climate related issues are related to professional expertise and academic experience in agricultural and climate issues being advisory to the board of Agribusiness Companies and consultant.	<Not Applicable>	<Not Applicable>

C1.2

(C1.2) Provide the highest management-level position(s) or committee(s) with responsibility for climate-related issues.

Position or committee

Other, please specify (Finance and Risk Committee)

Climate-related responsibilities of this position

Assessing climate-related risks and opportunities

Coverage of responsibilities

<Not Applicable>

Reporting line

Reports to the board directly

Frequency of reporting to the board on climate-related issues via this reporting line

As important matters arise

Please explain

The Finance and Risk Committee assists the Board of Directors in monitoring and evaluating the effectiveness of the financial policies applied by the Company, in the fulfillment of its responsibilities, including issuing recommendations to the Board of Directors and Executive body on risks and mitigation strategies, in order to check greater efficiency and quality in the decisions taken by the Board of Directors, as well as in monitoring and evaluating the effectiveness of the policies applied by the Company, including the Risk Management Policy. In addition, the Committee also assists in the implementation of mitigation measures for risk factors to which the Company is exposed, climate change included, as well as in the analysis of the Brazilian and world economic situation, with its potential effects on the Company's financial, operational, and strategic position.

Position or committee

Other, please specify (Strategic and Investment Committee)

Climate-related responsibilities of this position

Assessing climate-related risks and opportunities
Managing climate-related risks and opportunities

Coverage of responsibilities

<Not Applicable>

Reporting line

Reports to the board directly

Frequency of reporting to the board on climate-related issues via this reporting line

As important matters arise

Please explain

The Strategic and Investment Committee aims to analyze and issue recommendations for the proposed strategic and business plans, as well as other guidelines and orientations related to Company's strategies to be submitted to the Board of Directors.

Position or committee

Other, please specify (Innovation and Sustainability Advisory Board)

Climate-related responsibilities of this position

Developing a climate transition plan
Implementing a climate transition plan
Setting climate-related corporate targets
Monitoring progress against climate-related corporate targets

Coverage of responsibilities

<Not Applicable>

Reporting line

CEO reporting line

Frequency of reporting to the board on climate-related issues via this reporting line

More frequently than quarterly

Please explain

The Innovation and Sustainability Advisory Board is a non-statutory collegiate advisory body, linked to the Company's Executive Board, responsible for monitoring and discussing practices related to socio-environmental sustainability, corporate governance and innovation, in order to ensure greater transparency, efficiency and assertiveness of Minerva Foods' initiatives.

Position or committee

Other, please specify (Sustainability Commission)

Climate-related responsibilities of this position

Developing a climate transition plan
Implementing a climate transition plan
Setting climate-related corporate targets
Monitoring progress against climate-related corporate targets
Assessing climate-related risks and opportunities

Coverage of responsibilities

<Not Applicable>

Reporting line

CEO reporting line

Frequency of reporting to the board on climate-related issues via this reporting line

More frequently than quarterly

Please explain

The Sustainability Commission aims to drive the sustainability agenda across the organization and assist in decision-making related to socio-environmental issues. In addition, oversees and guides the execution of the Company's transition to a low carbon economy plan and monitors the progress towards the targets settled at the Commitment to Sustainability.

Position or committee

Chief Executive Officer (CEO)

Climate-related responsibilities of this position

Managing annual budgets for climate mitigation activities
Monitoring progress against climate-related corporate targets

Coverage of responsibilities

<Not Applicable>

Reporting line

Reports to the board directly

Frequency of reporting to the board on climate-related issues via this reporting line

As important matters arise

Please explain

The Company's CEO is responsible for important decisions on matters that may affect the strategy for the long-term objective expressed in the Commitment to Sustainability (net zero emissions by 2035), commercial objectives and mobilization of necessary resources. It is the central point of communication between the Company's operations and the Board of Directors and monitors the evolution of plans outlined and indicators of the sustainability agenda.

Position or committee

Chief Operating Officer (COO)

Climate-related responsibilities of this position

Implementing a climate transition plan

Coverage of responsibilities

<Not Applicable>

Reporting line

CEO reporting line

Frequency of reporting to the board on climate-related issues via this reporting line

As important matters arise

Please explain

The COO acts as direct support from the CEO to implement the Company's strategic plan, directing the areas under its management to comply with the policies established by the Company and its commitment. The COO is responsible for identifying priority demands and referring them to the CEO's considerations, such as those related to climate issues.

Position or committee

Other, please specify (Industrial Director)

Climate-related responsibilities of this position

Managing annual budgets for climate mitigation activities
Implementing a climate transition plan

Coverage of responsibilities

<Not Applicable>

Reporting line

Operations - COO reporting line

Frequency of reporting to the board on climate-related issues via this reporting line

As important matters arise

Please explain

Minerva Foods has a corporate area for environmental issues and supervisors allocated to each industrial plant responsible for managing atmospheric emissions, water use, effluent treatment, waste disposal and energy consumption, aiming the eco-efficiency of the Company's operations, directly contributing to the mitigation of GHG emissions for scopes 1, 2 and 3. Investments to improve environmental indicators are continuous, and it is up to the Industrial Director to approve, oversees and encourage related projects.

Position or committee

Environment/ Sustainability manager

Climate-related responsibilities of this position

Developing a climate transition plan
Implementing a climate transition plan
Setting climate-related corporate targets
Monitoring progress against climate-related corporate targets
Managing value chain engagement on climate-related issues
Assessing climate-related risks and opportunities
Managing climate-related risks and opportunities

Coverage of responsibilities

<Not Applicable>

Reporting line

Other, please specify (Institutional Relations Board)

Frequency of reporting to the board on climate-related issues via this reporting line

More frequently than quarterly

Please explain

The Executive Sustainability Managements report to the Institutional Relations Board and are responsible for identifying and managing risks and opportunities related to socio-environmental practices and coordinating the implementation of plans linked to the strategy for the long-term objective expressed Commitment to Sustainability. The Sustainability Executive Management, responsible for managing risks and opportunities related to the topic, including climate change, works to implement the Company's strategy to mitigate GHG emissions and disseminate information to stakeholders. The Sustainability Executive Management, responsible for the Renew program, runs projects to promote engagement with rural producers in the implementation of regenerative farming practices that increase productivity and income, in addition to bringing benefits to the environment through low carbon emissions and sustainable intensification of the livestock activity.

C1.3

(C1.3) Do you provide incentives for the management of climate-related issues, including the attainment of targets?

	Provide incentives for the management of climate-related issues	Comment
Row 1	Yes	There are two programs in Minerva Foods' operations in Brazil that will be implemented in other locations soon. The first is the "Atitude Campeã". The program seeks greater operational efficiency through healthy competition between business units (with monetary and non-monetary incentives) through the measurement of key indicators. The second is the "Círculo Minerva de Qualidade". This program creates groups of volunteers to identify improvements in operational efficiency, work safety, eco-efficiency, among others (with non-monetary incentives).

(C1.3a) Provide further details on the incentives provided for the management of climate-related issues (do not include the names of individuals).**Entitled to incentive**

Business unit manager

Type of incentive

Monetary reward

Incentive(s)

Bonus - % of salary

Performance indicator(s)

Implementation of an emissions reduction initiative

Energy efficiency improvement

Other (please specify) (Reduction/Efficiency in the consumption of inputs (water, energy, packaging, etc.); and Compliance with environmental standards.)

Incentive plan(s) this incentive is linked to

Short-Term Incentive Plan

Further details of incentive(s)

The operational efficiency program adopted by Minerva Foods in Brazil in recent years has shown excellent results. The "Atitude Campeã" program aims to promote integration, the exchange of good practices and the engagement of employees in the continuous improvement of processes. The program seeks greater operational efficiency through healthy competition between business units (with monetary and non-monetary incentives) by measuring key indicators (for example: reduction/efficiency in the consumption of inputs - water, energy, packaging, etc. - and compliance with environmental standards) with an impact on greenhouse gas emissions. Analysis of key indicators is carried out monthly, scoring the best business units and departments, and the best are awarded. In 2021 the program methodology used to assess the indicators was revised, bringing new guidelines and assessment items. The monetary bonus is proportional to the podium position. The first place receives a bonus of 100% of the monthly salary, the second place receives a bonus of 50% of the monthly salary and the third place 25% of the monthly salary. The Non-monetary rewards are: Internal company award, Internal team/employee of the month/quarter/year recognition and Public recognition.

Explain how this incentive contributes to the implementation of your organization's climate commitments and/or climate transition plan

The program seeks greater operational efficiency through healthy competition between business units (with monetary and non-monetary incentives) by measuring key indicators (for example: reduction/efficiency in the consumption of inputs - water, energy, packaging, etc. - and compliance with environmental standards) with an impact on greenhouse gas emissions. By reducing the amount of water consumed, it reduces the amount of wastewater to be treated in Effluent Treatment Station, thus reducing the GHG Emissions on Scope 1.

Other examples are the reduction in energy consumption that directly impacts Scope 2 emissions at Minerva Foods and the reduction in the use of packaging that impacts Scope 3 emissions.

Entitled to incentive

Business unit manager

Type of incentive

Non-monetary reward

Incentive(s)

Internal company award

Internal team/employee of the month/quarter/year recognition

Performance indicator(s)

Energy efficiency improvement

Other (please specify) (Operational efficiency, work safety, eco-efficiency, among others.)

Incentive plan(s) this incentive is linked to

Short-Term Incentive Plan

Further details of incentive(s)

The CMQ Program – "Círculo Minerva de Qualidade", encourages employees at industrial units to form groups of volunteers to identify improvements in operational efficiency, work safety, eco-efficiency, among others. Participants receive methodological training to support the structuring of projects and meet periodically for discussion and planning. CMQ was implemented in all business units during 2020 and 2021 in Brazil. This program presents employees with symbolic prizes, such as a special lunch, bags, bottles, restaurant vouchers, etc.

Explain how this incentive contributes to the implementation of your organization's climate commitments and/or climate transition plan

The program seeks greater operational efficiency by mapping processes improvement projects (for example: reduction/efficiency in the consumption of inputs - water, energy, packaging, etc. - and compliance with environmental standards) with an impact on greenhouse gas emissions.

An example of a project developed within the CMQ is a new tank for cleaning utensils used in production. The new equipment is more efficient and consumes less water.

This means that there is less effluent to be treated in the Effluent Treatment Stations, emitting less GHG in the process. Another project implemented automation to activate water in the leather extraction roller, reducing input consumption and generating less effluent.

C2. Risks and opportunities**C2.1****(C2.1) Does your organization have a process for identifying, assessing, and responding to climate-related risks and opportunities?**

Yes

C2.1a

(C2.1a) How does your organization define short-, medium- and long-term time horizons?

	From (years)	To (years)	Comment
Short-term	0	5	The Company defines as short term the time horizon of up to 5 years for analyzing risks and opportunities and establishing goals.
Medium-term	5	10	The Company defines medium term as a time horizon between 5 and 10 years for analyzing risks and opportunities and setting goals.
Long-term	10	15	The Company defines the long term as a time horizon between 10 and 15 years for analyzing risks and opportunities and setting goals.

C2.1b

(C2.1b) How does your organization define substantive financial or strategic impact on your business?

Minerva Foods understands risk management as an essential tool in its sustainability agenda. The Company manages a wide range of industry-relevant risks, including financial, environmental (climate change included), social and governance ones.

To prioritize initiatives that mitigate risks, the Company considers relevant those that have the potential to cause a financial impact from 10% on its EBITDA (in 2022, Minerva Foods' EBITDA was BRL 3.1 billion).

Minerva Foods is the leader in beef exports in South America, with a market share of approximately 20% and approximately 70% of gross income coming from exports in 2022, so trade barriers can have a great impact on the Company's results, for example. Considering the European Union as an example of a consumer market with complex sustainability criteria, the loss of access to this market could have an impact of 8% on export gross income (approximately BRL 1.8 billion – 8% of the export gross income of R\$ 22.7 billion), being considered a substantial impact.

C2.2

(C2.2) Describe your process(es) for identifying, assessing and responding to climate-related risks and opportunities.

Value chain stage(s) covered

Direct operations
Upstream
Downstream

Risk management process

Integrated into multi-disciplinary company-wide risk management process

Frequency of assessment

More than once a year

Time horizon(s) covered

Short-term
Medium-term
Long-term

Description of process

Situation: Minerva Foods understands risk management as an essential tool in its sustainability agenda. The Company manages a wide range of industry-relevant risks, including financial, environmental (climate change included), social and governance ones. For the management of climate risks in the short term, the Business Intelligence area is responsible for monitoring the weather forecast in the "Beef Desk", a structure that evaluates market forces and the variables that affect the price curves of inputs and products, as well as changes in the commodity market. Every month, a specialized consultancy promotes lectures for key people in the company with the aim of predicting the weather forecast at least 3 months in advance.

Task: For medium (2030) and long-term (2050) time horizons, in 2022, Minerva Foods hired a specialized consulting firm to develop a project aiming to integrate climate change risks (physical and transition) into the Company's risk management structure. The project, scheduled for completion in 2023, combines the Company's strategic vision with climate change projections in accordance with TCFD recommendations. Within the project, risks and opportunities related to climate change are being assessed, considering the concentration scenarios of greenhouse gases and socioeconomic strategies published by the IPCC (SSP1-2.6, SSP2-4.5 and SSP3-7.0) that may affect the Company's own operations and its value chain. The physical risks under assessment include forest fires, floods, heat and cold waves, storms, and weather-related droughts. The transition risks under assessment include political and legal, market, technological and reputational ones.

Action: after a first mapping of the history of climate events that impacted Minerva Foods' operations, a bibliographic review and sectoral benchmarking, an analysis of potential physical and transition risks in industrial operations and in the value chain was carried out during a workshop with a multidisciplinary group from the technical areas of the Company. As an example of an impact identified for the risk of unusual weather conditions caused by climate change (such as droughts in periods when it rains normally) was the possibility of an increase in production costs due to problems in the supply of cattle. Cattle represent approximately 80% of production costs and periods of drought can increase the cost per animal given the need for supplementary feed, disease outbreaks, among others.

Result: The next steps of the project include measuring impacts (including financial) and probabilities of risks for inclusion in the Company's corporate risk matrix, as well as determining mitigation/management plans.

The monitoring of risks and their mitigation/management plans will be carried out by the Audit, Risks and Compliance and Sustainability departments and in the relevant internal forums such as the Sustainability Commission.

Examples of opportunities identified to improve business resilience include the use of renewable energy, participation in the carbon credits market, and the development of financial solutions and technical support for low-carbon production for partner supplier farms (Renove program).

C2.2a

(C2.2a) Which risk types are considered in your organization's climate-related risk assessments?

	Relevance & Inclusion	Please explain
Current regulation	Relevant, always included	Given the nature and complexity of the Company's operations, it is subject to strict environmental legislation in the countries where it operates. As an example, in Brazil, the National Council for the Environment (CONAMA) and IBAMA (Brazilian Institute of Environment and Renewable Natural Resources), determine parameters for atmospheric emissions, deforestation, liquid effluents and solid waste as conditions for obtaining environmental licenses. Due to the extreme importance of agriculture in climate mitigation and adaptation processes, Minerva Foods is also covered by the National Policy on Climate Change (PNMC), established by Law 12,187/2009, which legislates on the reduction of greenhouse gas emissions in its guidelines. In addition, the Brazilian NDC (Nationally Determined Contribution), whose base year is 2005, aims to reduce total net emissions of greenhouse gases by 37% by 2025 and by up to 50% by 2030, in addition to achieving climate neutrality by 2050. Also in 2023, as a publicly traded company, Minerva Foods began to comply with Resolution 59 of the Brazilian Securities and Exchange Commission (CVM), which provides for the obligation to disclose information on ESG practices in the Reference Form.
Emerging regulation	Relevant, always included	Transition risks arising from the establishment of carbon markets (or carbon tax) in locations where the Company operates have been monitored since Minerva Foods might be liable to pay high fees due to GHG emissions from its own operations and supply chain. Minerva Foods is the leader in beef exports in South America, with a market share of approximately 20% and approximately 70% of gross income coming from exports in 2022, so trade barriers, using socio-environmental criteria, can have a great impact on the Company's results. As an example, there is the recent approval by the European Parliament of Regulation 2023/1115, which seeks to minimize the risk of deforestation and forest degradation, in the EU market, in six commodities and their by-products: beef, wood, palm oil, soya, coffee and cocoa.
Technology	Relevant, always included	The use of technology is necessary to mitigate GHG emissions in operations and adapt them to climate change, making Minerva Foods' businesses increasingly climate-oriented. The absence of technologies or the high cost of implementation may represent a risk, as it would compromise the Company's ability to meet its goal of becoming net zero by 2035 and lose competitiveness. As an example, in line with Minerva Foods' decarbonization plan, the Effluent Treatment Station at the José Bonifácio business unit in Brazil was modernized in 2022, aiming to improve treatment efficiency and reduce GHG emissions. Other initiative of GHG reduction emission at this plant still under investigation. The Company also has the goal of eliminating illegal deforestation in its supply chain, a practice that contributes to the increase in global temperature, and adopts a robust geomonitring system to verify the compliance of its supplying farms (SMGeo Direto). In Brazil and Paraguay, the Company already monitors 100% of the direct supplier farms and is implementing the same process in Argentina, Colombia and Uruguay as established in the Commitment to Sustainability.
Legal	Relevant, always included	Minerva Foods is subject to the laws of the countries where it has business units and may be liable for violations harmful to the environment, including practices in its supply chain. Since 2015, Minerva Foods has had a Compliance program with the aim of preventing any practices contrary to local legislation.
Market	Relevant, always included	Minerva Foods is the leader in beef exports in South America, with a market share of approximately 20% and approximately 70% of gross income coming from exports in 2022, so trade barriers, using socio-environmental criteria, can have a great impact on the Company's results. As an example, there is the recent approval by the European Parliament of Regulation 2023/1115, which seeks to minimize the risk of deforestation and forest degradation, in the EU market, in six commodities and their by-products: beef, wood, palm oil, soya, coffee and cocoa. The Company also has the goal of eliminating illegal deforestation in its supply chain, a practice that contributes to the increase in global temperature, and adopts a robust geomonitring system to verify the compliance of its supplying farms (SMGeo Direto). In Brazil and Paraguay, the Company already monitors 100% of the direct supplier farms and is implementing the same process in Argentina, Colombia and Uruguay as established in the Commitment to Sustainability.
Reputation	Relevant, always included	Minerva Foods is subject to reputational risks linked to climate change, for example, that livestock is one of the most intensive sectors in GHG emissions due to animal enteric fermentation and deforestation for expansion of animal production in South America, which can impact its brand, business, customers and other relevant stakeholders. Therefore, it seeks to ensure that the Company's business model is aligned with sustainable development practices. In this sense, Minerva Foods launched in 2021 its Commitment to Sustainability focused on the environmental pillar of its sustainability agenda called 'Dedication to the Planet'. The commitment aims to achieve zero net emissions by 2035 – 15 years ahead of the Paris Agreement – and for this purpose the Company has defined a series of goals focused on combating illegal deforestation and promoting sustainable livestock practices in its value chain. For this, Minerva Foods is working on three major axes: 1. Eco-efficiency in controlled operations; 2. Combating illegal deforestation in the value chain; and 3. Development of the Renove program on partner farms. As the first results towards the stipulated targets, the Company already monitors 100% of the direct supplier farms in Brazil and Paraguay based on strict socio-environmental criteria, including illegal deforestation, and is expanding the system to other countries in South America. In 2021, Minerva Foods created the Renove Program. Its purpose is to promote engagement and joint action with rural producers in the adoption of regenerative farming practices that increase productivity and income, in addition to benefiting the environment through lower carbon emissions and sustainable intensification of cattle ranching. The Renove Program is based on three key components: Capacity Building, Green Finance, and Technical and Institutional Partnerships. Within the Renove program, different projects are being carried out and resulted in the export of the first containers of carbon neutral beef in Brazil and Uruguay.
Acute physical	Relevant, always included	Acute events caused by climate change may directly and indirectly affect the Company's operations. Directly, the lack of rain can lead to increases in production costs, with an impact on the value of cattle (represents approximately 80% of production costs), energy (hydroelectric power plants are one of the main sources of energy in South America) and water. For food production with quality and safety, water is essential in cleaning the production space, with a lack of this input, operations need to be temporarily paralyzed. On the other side, as an example, on January 6, 2022, in the city of Barretos, in Brazil, a heavy rain occurred causing destruction of public roads and bridges. A state of calamity was instituted by the local authorities and the Company's business unit had to act considering the adverse scenario. Indirectly, climate change can lead to the spread of diseases that can affect livestock availability and access to different markets. All beef cattle purchased in Brazil are inspected by veterinarians from the Federal Inspection Service (SIF) of the Ministry of Agriculture, Livestock and Supply (Mapa), which authorizes the production and processing of beef. In other countries, there are similar bodies responsible for controlling the disease (Senacsa, in Paraguay; MGAP, in Uruguay; MADR, in Colombia; and MGAP, in Argentina). Forest fires on our suppliers' farms, caused by heat waves, could affect the supply of cattle, as well as jeopardize operations in locations far from urban centers. As a mitigation strategy, Minerva Foods has its business units in different locations in South America and Australia, taking advantage of the abundance of pastures and reducing dependence on agricultural commodities in the herd's diet, implementing base arbitrage and reducing the probability of operation in water-stressed areas, while being able to quickly reallocate customer orders and avoid market closures. The Company also seeks to diversify its customer base and markets served.
Chronic physical	Relevant, always included	Water scarcity is one of the risks mapped by the Company and its probability of occurrence varies according to the region where the business units are located. This factor directly affects operations, since the lack of rain can lead to increases in production costs, with an impact on the value of cattle (represents approximately 80% of production costs), energy (hydroelectric power plants are one of the main sources of energy in South America) and water. For food production with quality and safety, water is essential in cleaning the production space, with a lack of this input, operations need to be temporarily paralyzed. As a mitigation strategy, Minerva Foods has its business units in different locations in South America and Australia, taking advantage of the abundance of pastures and reducing dependence on agricultural commodities in the herd's diet, implementing base arbitrage and reducing the probability of operation in water-stressed areas, while being able to quickly reallocate customer orders and avoid market closures. The Company also seeks to diversify its customer base and markets served.

C2.3

(C2.3) Have you identified any inherent climate-related risks with the potential to have a substantive financial or strategic impact on your business?

Yes

C2.3a

(C2.3a) Provide details of risks identified with the potential to have a substantive financial or strategic impact on your business.

Identifier

Risk 1

Where in the value chain does the risk driver occur?

Direct operations

Risk type & Primary climate-related risk driver

Market	Changing customer behavior
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Primary potential financial impact

Decreased revenues due to reduced demand for products and services

Climate risk type mapped to traditional financial services industry risk classification

<Not Applicable>

Company-specific description

Situation: Minerva Foods is the leader in beef exports in South America, with a market share of approximately 20% and approximately 70% of gross income coming from exports in 2022, so trade barriers, using socio-environmental criteria, can have a great impact on the Company's results. As an example, there is the recent approval by the European Parliament of Regulation 2023/1115, which seeks to minimize the risk of deforestation and forest degradation, a practice that contributes to the increase in global temperature, in the EU market, in six commodities and their by-products: beef, wood, palm oil, soya, coffee and cocoa.

Task: To maintain access to the most demanding markets in terms of socio-environmental criteria, the Company's business model must be aligned with sustainable development practices. In this sense, the Company launched in 2021 its Commitment to Sustainability focused on the environmental pillar of its sustainability agenda called 'Dedication to the Planet'. The commitment aims to achieve zero net emissions by 2035 (15 years ahead of the Paris Agreement) and for this purpose the Company has defined goals focused on combating illegal deforestation and promoting sustainable livestock practices in its value chain. For this, Minerva Foods is working on 3 major axes: 1. Eco-efficiency in controlled operations; 2. Combating illegal deforestation in the value chain; and 3. Development of the Renove program on partner farms.

Action: Minerva Foods utilizes the best available technology in its traceability practices to ensure compliance with environmental, labor and land tenure regulations within its portfolio of producers, with a focus on topics such as biodiversity and human rights. Geospatial monitoring tracks the condition of the ranches, ensuring that cattle purchased by Minerva Foods do not originate from properties with illegally deforested areas, with environmental embargoes, that overlaps indigenous lands and/or traditional communities and conservation units, and are not associated with the use of labor analogous to slavery.

Result: The Company pioneered the wider application of geospatial monitoring technology to 100% of direct supplier farms in all biomes of Brazil. In 2021 the implementation of monitoring for 100% of purchases in Paraguay was concluded. The objective is to achieve the same range of coverage for Colombia (2023), Uruguay (2025) and Argentina (2030) and the Company is working to improve the traceability to indirect suppliers.

Time horizon

Short-term

Likelihood

More likely than not

Magnitude of impact

High

Are you able to provide a potential financial impact figure?

Yes, a single figure estimate

Potential financial impact figure (currency)

1816000000

Potential financial impact figure – minimum (currency)

<Not Applicable>

Potential financial impact figure – maximum (currency)

<Not Applicable>

Explanation of financial impact figure

In the worst-case scenario, exports would drop to zero for European Union, materially impacting the Company's revenues.

Gross income = BRL 32.9 billion

Export gross income = R\$ 22.7 billion (~70% of gross income).

Considering that the European Union represents 8% of exports, the impact could be of BRL 1.8 billion (8% of export gross income).

Cost of response to risk

2000000

Description of response and explanation of cost calculation

The Company pioneered the wider application of geospatial monitoring technology to 100% of direct suppliers in all biomes of Brazil (Amazon, Cerrado, Pantanal, Caatinga and Atlantic Forest). In 2021 the implementation of monitoring for 100% of purchases in Paraguay was concluded. The objective is to achieve the same range of coverage for Colombia (2023), Uruguay (2025) and all other countries in which Minerva operates in South America (2030). In Colombia and Argentina, implementation is already advanced, with over 80% of direct suppliers monitored in the former and 90% in the latter country. In Uruguay, Minerva Foods has already started studies on local legislation to start implementing socioenvironmental monitoring in the country.

The cost of the third party company (Niceplanet Geotecnologia) responsible for the geomonitoring system (SMGeo Direto) is approximately BRL 2.0 million per year.

Comment**Identifier**

Risk 2

Where in the value chain does the risk driver occur?

Direct operations

Risk type & Primary climate-related risk driver

Reputation	Stigmatization of sector
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Primary potential financial impact

Decreased access to capital

Climate risk type mapped to traditional financial services industry risk classification

<Not Applicable>

Company-specific description

Situation: Minerva Foods is subject to reputational risks linked to climate change, for example, that livestock is one of the most intensive sectors in GHG emissions due to animal enteric fermentation and deforestation for expansion of animal production in South America.

Task: This stigmatization of the sector can impact access to capital. Thus, the Company seeks to ensure that its business model is aligned with sustainable development practices. In this sense, Minerva Foods launched in 2021 its Commitment to Sustainability focused on the environmental pillar of its sustainability agenda called 'Dedication to the Planet'. The commitment aims to achieve zero net emissions by 2035 – 15 years ahead of the Paris Agreement – and for this purpose the Company has defined a

series of goals focused on combating illegal deforestation and promoting sustainable livestock practices in its value chain. For this, Minerva Foods is working on three major axes: 1. Eco-efficiency in controlled operations; 2. Combating illegal deforestation in the value chain; and 3. Development of the Renove program on partner farms. Action: As the first results towards the stipulated targets, the Company already monitors 100% of the direct supplier farms in Brazil and Paraguay based on strict socio-environmental criteria, including illegal deforestation, and is expanding the system to other countries in South America. In addition, in 2021, Minerva Foods created the Renove Program. Its purpose is to promote engagement and joint action with rural producers in the adoption of regenerative farming practices that increase productivity and income, in addition to benefiting the environment through lower carbon emissions and sustainable intensification of cattle ranching. The Renove Program is based on three key components: Capacity Building, Green Finance, and Technical and Institutional Partnerships. Result: The Company pioneered the wider application of geospatial monitoring technology to 100% of direct supplier farms in all biomes of Brazil. In 2021 the implementation of monitoring for 100% of purchases in Paraguay was concluded. The objective is to achieve the same range of coverage for Colombia (2023), Uruguay (2025) and Argentina (2030) and the Company is working to improve the traceability to indirect suppliers. Within the Renove program, different projects are being carried out and resulted in the export of the first containers of carbon neutral beef in Brazil and Uruguay.

Time horizon

Long-term

Likelihood

More likely than not

Magnitude of impact

Unknown

Are you able to provide a potential financial impact figure?

No, we do not have this figure

Potential financial impact figure (currency)

<Not Applicable>

Potential financial impact figure – minimum (currency)

<Not Applicable>

Potential financial impact figure – maximum (currency)

<Not Applicable>

Explanation of financial impact figure

The company has not yet calculated the financial impact for this risk.

Cost of response to risk

3801274

Description of response and explanation of cost calculation

The Company pioneered the wider application of geospatial monitoring technology to 100% of direct suppliers in all biomes of Brazil (Amazon, Cerrado, Pantanal, Caatinga and Atlantic Forest). In 2021 the implementation of monitoring for 100% of purchases in Paraguay was concluded. The objective is to achieve the same range of coverage for Colombia (2023), Uruguay (2025) and all other countries in which Minerva operates in South America (2030). In Colombia and Argentina, implementation is already advanced, with over 80% of direct suppliers monitored in the former and 90% in the latter country. In Uruguay, Minerva Foods has already started studies on local legislation to start implementing socioenvironmental monitoring in the country.

The cost of the third party company (Niceplanet Geotecnologia) responsible for the geomonitoring system (SMGeo Direto) is approximately BRL 2 million per year. In addition, in 2021, Minerva Foods created the Renove Program. Its purpose is to promote engagement and joint action with rural producers in the adoption of regenerative farming practices that increase productivity and income, in addition to benefiting the environment through lower carbon emissions and sustainable intensification of cattle ranching. The Renove Program is based on three key components: Capacity Building, Green Finance, and Technical and Institutional Partnerships. Since 2021, Minerva Foods has invested BRL 4,010,763.00 in the Renove Program.

Comment

C2.4

(C2.4) Have you identified any climate-related opportunities with the potential to have a substantive financial or strategic impact on your business?

Yes

C2.4a

(C2.4a) Provide details of opportunities identified with the potential to have a substantive financial or strategic impact on your business.

Identifier

Opp1

Where in the value chain does the opportunity occur?

Direct operations

Opportunity type

Energy source

Primary climate-related opportunity driver

Other, please specify (Participation in renewable energy programs and adoption of energy-efficiency measures)

Primary potential financial impact

Increased revenues resulting from increased demand for products and services

Company-specific description

Situation: as a signatory part of the Paris Agreement, the Brazilian state has established goals to reduce GHG emissions. The country intends to increase the share of biofuels in its energy matrix and created a program to encourage production.

Task: Minerva Foods, seeking the eco-efficiency of its operations, identified the possibility of using bovine tallow, a by-product of slaughter, as a raw material in the production of biodiesel and participating in the stimulus program of the Brazilian state.

Action: Minerva Biodiesel, created in 2011 produces biodiesel from animal tallow, in addition to materials such as soy, coconut and chicken fat, and was certified in 2021 by RenovaBio, a component of the Brazilian Decarbonization Program. After certification, the Company becomes eligible to issue Decarbonization Credits (CBios) for sale to fuel distribution companies. CBios credits also increase the Company's capacity to generate economic benefits, attract investors and obtain faster access to more competitive financing. In addition to tallow, Minerva Biodiesel buys non-cattle raw material from around 50 small producers to produce biodiesel.

Result: With a business unit in Palmeiras de Goiás, Brazil, Minerva Biodiesel has a production capacity of 200m³/day. Minerva Biodiesel sold 63,886 CBios in 2022.

Time horizon

Short-term

Likelihood

Virtually certain

Magnitude of impact

Medium

Are you able to provide a potential financial impact figure?

Yes, a single figure estimate

Potential financial impact figure (currency)

3870755

Potential financial impact figure – minimum (currency)

<Not Applicable>

Potential financial impact figure – maximum (currency)

<Not Applicable>

Explanation of financial impact figure

Minerva Biodiesel income in 2022 from CBios was BRL 3.87 million.

Cost to realize opportunity

Strategy to realize opportunity and explanation of cost calculation

Comment

Identifier

Opp2

Where in the value chain does the opportunity occur?

Direct operations

Opportunity type

Energy source

Primary climate-related opportunity driver

Use of lower-emission sources of energy

Primary potential financial impact

Reduced indirect (operating) costs

Company-specific description

Situation: energy is Minerva Foods' second largest cost of production, and the energy sector is one of the biggest contributors to climate change (34% of the world GHG emission, according to AR6). Although the energy matrix in South America has a relevant share of renewable sources (the Latin America and Caribbean region generated 63% of its electricity from clean sources in 2022 according to ember-climate.org), there is still room for increasing the production of clean energy.

Task: Minerva Foods launched in 2021 its Commitment to Sustainability focused on the environmental pillar of its sustainability agenda called 'Dedication to the Planet'. The commitment aims to achieve zero net emissions by 2035 – 15 years ahead of the Paris Agreement – and for this purpose the Company has defined a series of goals focused on combating illegal deforestation and promoting sustainable livestock practices in its value chain. For this, Minerva Foods is working on three major axes: 1. Eco-efficiency in controlled operations; 2. Combating illegal deforestation in the value chain; and 3. Development of the Renove program on partner farms.

Action: among the short-term initiatives to reach net-zero, since 2020, the Company acquires Renewable Energy Certificates (I-RECs) for all business units. Wind energy certificates were acquired for operations in Brazil and hydroelectric energy certificates for other countries in South America and Australia. No certificates were acquired for the operations in Paraguay, as the local energy matrix only comprises energy from renewable sources.

Result: the Company zeroed its Scope 2 emissions (market approach). In addition, Minerva Foods was also the first company in Brazil to obtain the Renewable Energy Seal, granted by the Totum Institute in partnership with the Brazilian Association of Wind Energy (ABE Eólica) and the Brazilian Association of Clean Energy Brazilian Association (ABRAGEL). This certification attests that energy companies not only use renewable energy sources, but also adopt improved social and community engagement practices.

Future: the Company carries out studies for investments in renewable energies through the Minerva Energia division.

Time horizon

Long-term

Likelihood

Very likely

Magnitude of impact

Medium-high

Are you able to provide a potential financial impact figure?

Yes, a single figure estimate

Potential financial impact figure (currency)

18655030

Potential financial impact figure – minimum (currency)

<Not Applicable>

Potential financial impact figure – maximum (currency)

<Not Applicable>

Explanation of financial impact figure

Considering the value of the European Union carbon tax on December 30, 2022, EU 88.03, with the exchange rate for BRL at 5.28 (same exchange rate from Minerva Foods' Earnings Releases 2022), the amount of tax to be paid for the Company's scope 2 emissions would be of BRL 19,054,329.56. The cost to realize opportunity in 2022 was BRL 399,229. Therefore, the financial impact would be BRL 19,054,329 minus BRL 399,229 or BRL 18,655,030.

Cost to realize opportunity

399229

Strategy to realize opportunity and explanation of cost calculation

Among the short-term initiatives to reach net-zero, since 2020, Minerva Foods acquires Renewable Energy Certificates (I-RECs) for all business units. In, 2022, wind energy certificates were acquired for operations in Brazil and hydroelectric energy certificates for other countries in South America and Australia. No certificates were acquired for the operations in Paraguay, as the local energy matrix only comprises energy from renewable sources. The I-RECs Purchase process were care out by Minerva Energia, a subsidiary company from Minerva Foods. The total cost of all I-RECs was BRL 399,299.12.

Comment

Identifier

Opp3

Where in the value chain does the opportunity occur?

Upstream

Opportunity type

Products and services

Primary climate-related opportunity driver

Development and/or expansion of low emission goods and services

Primary potential financial impact

Increased revenues through access to new and emerging markets

Company-specific description

Situation: Minerva Foods is subject to reputational risks linked to climate change, for example, that livestock is one of the most intensive sectors in GHG emissions due to animal enteric fermentation and deforestation for expansion of animal production in South America. As a characteristic of the sector, most of the emissions are on farms that supply cattle (scope 3).

Task: the Company seeks to ensure that its business model is aligned with sustainable development practices. In this sense, Minerva Foods launched in 2021 its Commitment to Sustainability focused on the environmental pillar of its sustainability agenda called 'Dedication to the Planet'. The commitment aims to achieve zero net emissions by 2035 – 15 years ahead of the Paris Agreement – and for this purpose the Company has defined a series of goals focused on combating illegal deforestation and promoting sustainable livestock practices in its value chain. For this, Minerva Foods is working on three major axes: 1. Eco-efficiency in controlled operations; 2. Combating illegal deforestation in the value chain; and 3. Development of the Renove program on partner farms.

Action: in 2021, Minerva Foods created the Renove Program. Its purpose is to promote engagement and joint action with rural producers in the adoption of regenerative farming practices that increase productivity and income, in addition to benefiting the environment through lower carbon emissions and sustainable intensification of cattle ranching. The Renove Program is based on three key components: Capacity Building, Green Finance, and Technical and Institutional Partnerships.

Result: In the Carbon Project, in partnership with Biofílica Ambipar Environment, cooperation agreements were signed with cattle suppliers confirming the interest in converting conventional livestock management practices into regenerative practices that increase productivity and remove or reduce GHG emissions. The farms, located in six Brazilian states, are being evaluated in the field by the program's technical team, with a view to recovering degraded pasture, implementing integrated systems - Crop-Livestock-Forest Integration (ILPF) - and the use of food additives in animal feed for the reduction of enteric methane. To make the implementation of these practices feasible, partnerships were established with large input, financing, and technological innovation companies.

Time horizon

Long-term

Likelihood

Virtually certain

Magnitude of impact

High

Are you able to provide a potential financial impact figure?

Yes, a single figure estimate

Potential financial impact figure (currency)

19250000000

Potential financial impact figure – minimum (currency)

<Not Applicable>

Potential financial impact figure – maximum (currency)

<Not Applicable>

Explanation of financial impact figure

According to Way and ICC Brasil 2022 Report ("Oportunidades para o Brasil em Mercados de Carbono"), the Brazilian total potential of Carbon Credit, in 20230, is from 80 to 750 MtCO₂e that can be converted into a new source of income for agribusiness. An amount that, considering the value of the carbon credit in EU 88.03 (30th Dec 2022), with the exchange rate for BRL at 5.28 (same exchange rate from Minerva Foods' Earnings Releases 2022), could generate from R\$ 37 billion to R\$ 348 billion for all Brazilian Carbon Credit Market. So, the average between the most optimistic scenario and the most pessimistic scenario is R\$ 192 billion.

Cost to realize opportunity

1801274

Strategy to realize opportunity and explanation of cost calculation

In 2021, Minerva Foods created the Renove Program. Its purpose is to promote engagement and joint action with rural producers in the adoption of regenerative farming practices that increase productivity and income, in addition to benefiting the environment through lower carbon emissions and sustainable intensification of cattle ranching. The Renove Program is based on three key components: Capacity Building, Green Finance, and Technical and Institutional Partnerships. The amount invested in the Renove program in 2022 was BRL 1.801.274,00.

Comment

Identifier

Opp4

Where in the value chain does the opportunity occur?

Upstream

Opportunity type

Markets

Primary climate-related opportunity driver

Access to new markets

Primary potential financial impact

Increased revenues resulting from increased demand for products and services

Company-specific description

Status: Companies have been pursuing net zero goals, in accordance with the 1.5°C Paris Agreement threshold. Voluntary carbon markets are an important instrument for achieving that objective.

Task: as one of the largest agribusiness companies in South America, Minerva Foods understands that it can also contribute to the fight against climate change by developing, sourcing and trading high quality carbon credits from projects carried out in South American forestry, with a focus on land use, agriculture and renewable energy initiatives to support companies with climate goals.

Action: created in 2021, MyCarbon is a subsidiary of Minerva Foods that originates and trades carbon credits, in accordance with international standards, creating financial opportunities for nature preservation, accelerating the fight against climate change, and promoting a low carbon future. MyCarbon is part of Minerva Foods' efforts to implement initiatives that promote sustainable and low-carbon livestock, supporting livestock farmers across South America in adopting a production system based on technology that contributes to the reduction of emissions in the supply chain.

Result: in 2022, MyCarbon, together with the Renove program, endeavored to offset emissions from the production process of the Minerva Foods' Carbon Neutral Beef line, legitimizing its prominence in the market and positioning itself among the largest Companies in the segment. In October of the same year, MyCarbon provided approximately 20% of the credits traded in the auction held by the Sovereign Fund of Saudi Arabia. This was the largest auction of carbon credits in the voluntary market in the world and the first in the Middle East, with the transfer of more than one million tons of greenhouse gases in the form of audited and certified carbon credits. MyCarbon also calculated the GHG emissions emitted in the Minerva Foods lounge during the 11 days of the "Festa do Peão de Barretos 2022", the largest country festival in Brazil, and offset 550 tCO₂e. Additional compensation was provided to festival organizers. In total, 843 tCO₂e were neutralized.

Time horizon

Medium-term

Likelihood

Virtually certain

Magnitude of impact

High

Are you able to provide a potential financial impact figure?

Yes, a single figure estimate

Potential financial impact figure (currency)

19250000000

Potential financial impact figure – minimum (currency)

<Not Applicable>

Potential financial impact figure – maximum (currency)

<Not Applicable>

Explanation of financial impact figure

According to Way and ICC Brasil 2022 Report ("Oportunidades para o Brasil em Mercados de Carbono"), the Brazilian total potential of Carbon Credit, in 20230, is from 80 to 750 MtCO₂e that can be converted into a new source of income for agribusiness. An amount that, considering the value of the carbon credit in EU 88.03 (30th Dec 2022), with the exchange rate for BRL at 5.28 (same exchange rate from Minerva Foods' Earnings Releases 2022), could generate from R\$ 37 billion to R\$ 348 billion for all Brazilian Carbon Credit Market. So, the average between the most optimistic scenario and the most pessimistic scenario is R\$ 192 billion.

Cost to realize opportunity

13000000

Strategy to realize opportunity and explanation of cost calculation

Created in 2021, MyCarbon is a subsidiary of Minerva Foods that originates and trades carbon credits, in accordance with international standards, creating financial opportunities for nature preservation, accelerating the fight against climate change, and promoting a low carbon future. MyCarbon is part of Minerva Foods' efforts to implement initiatives that promote sustainable and low-carbon livestock, supporting livestock farmers across South America in adopting a production system based on technology that contributes to the reduction of emissions in the supply chain. The investment required to set up MyCarbon was BRL 13 million in 2021.

Comment

C3. Business Strategy

C3.1

(C3.1) Does your organization’s strategy include a climate transition plan that aligns with a 1.5°C world?

Row 1

Climate transition plan

No, but our strategy has been influenced by climate-related risks and opportunities, and we are developing a climate transition plan within two years

Publicly available climate transition plan

<Not Applicable>

Mechanism by which feedback is collected from shareholders on your climate transition plan

<Not Applicable>

Description of feedback mechanism

<Not Applicable>

Frequency of feedback collection

<Not Applicable>

Attach any relevant documents which detail your climate transition plan (optional)

<Not Applicable>

Explain why your organization does not have a climate transition plan that aligns with a 1.5°C world and any plans to develop one in the future

It is clear to the Company that the sustainability of its business depends on the sustainability of the ecosystems that sustain agricultural production. Minerva Foods has been preparing and acting over the last few years to combat climate change and seeks to ensure that its business model is aligned with sustainable development practices. In this sense, Minerva Foods launched in 2021 its Commitment to Sustainability focused on the environmental pillar of its sustainability agenda called 'Dedication to the Planet'. The commitment aims to achieve zero net emissions by 2035 – 15 years before the Paris Agreement – and for this the Company has defined a series of goals focused on combating illegal deforestation and promoting sustainable livestock practices in its value chain. For this, Minerva Foods works on three main axes: 1. Eco-efficiency in controlled operations; 2. Combating illegal deforestation in the value chain; and 3. Development of the Renove program at partner farms. Minerva Foods has also been monitoring international initiatives such as the launch of the method for submitting science-based targets for the land-use intensive sector (FLAG). Throughout 2021, Minerva Foods developed a study with specialized consulting to identify and prioritize projects to mitigate GHG emissions for scopes 1 and 2. It also created the Renove program to promote engagement and joint action with rural producers in the adoption of practices regenerative agriculture that increases productivity and income, as well as benefits the environment through reduced carbon emissions and sustainable intensification of livestock. Finally, it also created MyCarbon, a subsidiary of Minerva Foods, which originates and sells carbon credits, in accordance with international standards, creating financial opportunities for nature preservation, accelerating the fight against climate change and promoting a low-carbon future. In 2022, the Company carried out the Scope 3 materiality study with the same specialized consultancy that carried out the Scope 1 and 2 study, resulting in a complete GHG management of its value chain. With all these actions in place, the Company aims to ensure that its climate transition plan is the most concise with the best market practices and updated in scientific terms.

Explain why climate-related risks and opportunities have not influenced your strategy

<Not Applicable>

C3.2

(C3.2) Does your organization use climate-related scenario analysis to inform its strategy?

	Use of climate-related scenario analysis to inform strategy	Primary reason why your organization does not use climate-related scenario analysis to inform its strategy	Explain why your organization does not use climate-related scenario analysis to inform its strategy and any plans to use it in the future
Row 1	No, but we anticipate using qualitative and/or quantitative analysis in the next two years	Other, please specify (The transition scenario analysis is under construction)	It is clear to the Company that the sustainability of its business depends on the sustainability of the ecosystems that sustain agricultural production. Minerva Foods has been preparing and acting over the last few years to combat climate change and seeks to ensure that its business model is aligned with sustainable development practices. In this sense, Minerva Foods launched in 2021 its Commitment to Sustainability focused on the environmental pillar of its sustainability agenda called 'Dedication to the Planet'. The commitment aims to achieve zero net emissions by 2035 – 15 years before the Paris Agreement – and for this the Company has defined a series of goals focused on combating illegal deforestation and promoting sustainable livestock practices in its value chain. For this, Minerva Foods works on three main axes: 1. Eco-efficiency in controlled operations; 2. Combating illegal deforestation in the value chain; and 3. Development of the Renove program at partner farms. Minerva Foods has also been monitoring international initiatives such as the launch of the method for submitting science-based targets for the land-use intensive sector (FLAG). Throughout 2021, Minerva Foods developed a study with specialized consulting to identify and prioritize projects to mitigate GHG emissions for scopes 1 and 2. It also created the Renove program to promote engagement and joint action with rural producers in the adoption of practices regenerative agriculture that increases productivity and income, as well as benefits the environment through reduced carbon emissions and sustainable intensification of livestock. Finally, it also created MyCarbon, a subsidiary of Minerva Foods, which originates and sells carbon credits, in accordance with international standards, creating financial opportunities for nature preservation, accelerating the fight against climate change, and promoting a low-carbon future. In 2022, the Company carried out the Scope 3 materiality study with the same specialized consultancy that carried out the Scope 1 and 2 study, resulting in a complete GHG management of its value chain. With all these actions in place, the Company aims to ensure that its climate transition plan is the most concise with the best market practices and updated in scientific terms.

C3.3

(C3.3) Describe where and how climate-related risks and opportunities have influenced your strategy.

	Have climate-related risks and opportunities influenced your strategy in this area?	Description of influence
Products and services	Yes	<p>Situation: Companies have been pursuing net zero goals, in accordance with the 1.5°C Paris Agreement threshold. Voluntary carbon markets are an important instrument for achieving that objective.</p> <p>Task: as one of the largest agribusiness companies in South America, Minerva Foods understands that it can also contribute to the fight against climate change by developing, sourcing, and trading high quality carbon credits from projects carried out in South American forestry, with a focus on land use, agriculture and renewable energy initiatives to support companies with climate goals.</p> <p>Action: created in 2021, MyCarbon is a subsidiary of Minerva Foods that originates and trades carbon credits, in accordance with international standards, creating financial opportunities for nature preservation, accelerating the fight against climate change, and promoting a low carbon future. MyCarbon is part of Minerva Foods' efforts to implement initiatives that promote sustainable and low-carbon livestock, supporting livestock farmers across South America in adopting a production system based on technology that contributes to the reduction of emissions in the supply chain.</p> <p>Result: in 2022, MyCarbon, together with the Renove program, endeavored to offset emissions from the production process of the Minerva Foods' Carbon Neutral Beef line, legitimizing its prominence in the market and positioning itself among the largest Companies in the segment. In October of the same year, MyCarbon provided approximately 20% of the credits traded in the auction held by the Sovereign Fund of Saudi Arabia. This was the largest auction of carbon credits in the voluntary market in the world and the first in the Middle East, with the transfer of more than one million tons of greenhouse gases in the form of audited and certified carbon credits. MyCarbon also calculated the GHG emissions emitted in the Minerva Foods lounge during the 11 days of the "Festa do Peão de Barretos 2022", the largest country festival in Brazil, and offset 550 tCO2e. Additional compensation was provided to festival organizers. In total, 843 tCO2e were neutralized.</p>
Supply chain and/or value chain	Yes	<p>Situation: Minerva Foods is subject to reputational risks linked to climate change, for example, that livestock is one of the most intensive sectors in GHG emissions due to animal enteric fermentation and deforestation for expansion of animal production in South America. As a characteristic of the sector, most of the emissions are on farms that supply cattle (scope 3).</p> <p>Task: the Company seeks to ensure that its business model is aligned with sustainable development practices. In this sense, Minerva Foods launched in 2021 its Commitment to Sustainability focused on the environmental pillar of its sustainability agenda called 'Dedication to the Planet'. The commitment aims to achieve zero net emissions by 2035 (15 years ahead of the Paris Agreement) and for this purpose the Company has defined a series of goals focused on combating illegal deforestation and promoting sustainable livestock practices in its value chain. For this, Minerva Foods is working on 3 major axes: 1. Eco-efficiency in controlled operations; 2. Combating illegal deforestation in the value chain; and 3. Development of the Renove program on partner farms.</p> <p>Action: in 2021, the Company created the Renove Program. Its purpose is to promote engagement and joint action with rural producers in the adoption of regenerative farming practices that increase productivity and income, in addition to benefiting the environment through lower carbon emissions and sustainable intensification of cattle ranching. The Renove Program is based on three key components: Capacity Building, Green Finance, and Technical and Institutional Partnerships.</p> <p>Result: In the Carbon Project, in partnership with Bioflicca Ambipar Environment, cooperation agreements were signed with cattle suppliers confirming the interest in converting conventional livestock management practices into regenerative practices that increase productivity and remove or reduce GHG emissions. The farms, located in six Brazilian states, are being evaluated in the field by the program's technical team, with a view to recovering degraded pasture, implementing integrated systems - Crop-Livestock-Forest Integration (ILPF) - and the use of food additives in animal feed for the reduction of enteric methane. To make the implementation of these practices feasible, partnerships were established with large input, financing, and technological innovation companies.</p>
Investment in R&D	Yes	<p>Situation: Minerva Foods is subject to reputational risks linked to climate change, for example, that livestock is one of the most intensive sectors in GHG emissions due to animal enteric fermentation and deforestation for expansion of animal production in South America. In this sense, there is the possibility of changing the habits of animal protein consumers who can reduce or replace the product with alternative proteins.</p> <p>Task: therefore, Minerva Foods has sought to diversify investments in sectors related to its core business.</p> <p>Action: Minerva Foods' first venture capital investment was in the EVERY company, formerly Clara Foods, a biotechnology company that develops fermentation-derived proteins. The company's products can be used in a wide variety of applications, including baking, as a nutritional supplement and as a protein booster for foods and beverages.</p> <p>Result: the EVERY company is currently selling animal-free pepsin through a distribution partner and the first egg white protein is also available for commercial sale.</p>
Operations	Yes	<p>Situation: transition risks arising from the establishment of carbon markets (or carbon tax) in locations where the Company operates have been monitored since Minerva Foods might be liable to pay high fees due to GHG emissions from its own operations and supply chain.</p> <p>Task: considering the 2022 corporate GHG inventory, approximately 69% of Minerva Foods' Scope 1 emissions are concentrated in Effluent Treatment Stations and Scope 2 emissions represents 11% of Minerva Foods' Scopes 1 and 2 emissions (location-based approach).</p> <p>Action: Throughout 2021, Minerva Foods developed a study with specialized consultancy to identify and prioritize GHG emissions mitigation projects for scopes 1 and 2.</p> <p>Result: in line with Minerva Foods' decarbonization plan, the Effluent Treatment Station at the José Bonifácio business unit in Brazil was modernized in 2022, aiming to improve treatment efficiency and reduce GHG emissions. Other initiative of GHG reduction emission at this plant still under investigation</p> <p>Regarding scope 2, since 2020, the Company acquires Renewable Energy Certificates (I-RECs) for all business units. In 2022, wind energy certificates were acquired for operations in Brazil and hydroelectric energy certificates for other countries in South America and Australia. No certificates were acquired for the operations in Paraguay, as the local energy matrix only comprises energy from renewable sources. Through certificates, the Company zeroed its Scope 2 emissions (market approach). In addition, Minerva Foods was also the first company in Brazil to obtain the Renewable Energy Seal, granted by the Totum Institute in partnership with the Brazilian Association of Wind Energy (ABE Eólica) and the Brazilian Association of Clean Energy Brazilian Association (ABRAGEL). This certification attests that energy companies not only use renewable energy sources, but also adopt improved social and community engagement practices. Also, the Company carries out studies for investments in renewable energies through the Minerva Energia division.</p>

C3.4

(C3.4) Describe where and how climate-related risks and opportunities have influenced your financial planning.

	Financial planning elements that have been influenced	Description of influence
Row 1	Revenues Direct costs Indirect costs Capital expenditures Capital allocation	<p>Revenue</p> <p>Situation: Minerva Foods is the leader in beef exports in South America, with a market share of approximately 20% and approximately 70% of gross income coming from exports in 2022, so trade barriers, using socio-environmental criteria, can have a great impact on the Company's results. As an example, there is the recent approval by the European Parliament of Regulation 2023/1115, which seeks to minimize the risk of deforestation and forest degradation, a practice that contributes to the increase in global temperature, in the EU market, in six commodities and their by-products: beef, wood, palm oil, soya, coffee and cocoa.</p> <p>Task: to address this risk, the Company should make investments to reduce the risk in the supply chain in relation to the practice of illegal deforestation and improve eco-efficiency in its own operations.</p> <p>Action and Result: the Company pioneered the wider application of geospatial monitoring technology to 100% of direct suppliers in all biomes of Brazil (Amazon, Cerrado, Pantanal, Caatinga and Atlantic Forest). In 2021 the implementation of monitoring for 100% of purchases in Paraguay was concluded. The objective is to achieve the same range of coverage for Colombia (2023), Uruguay (2025) and all other countries in which Minerva operates in South America (2030). In Colombia and Argentina, implementation is already advanced, with over 80% of direct suppliers monitored in the former and 90% in the latter country. In Uruguay, Minerva Foods has already started studies on local legislation to start implementing socioenvironmental monitoring in the country. The cost of the third party company (Niceplanet Geotecnologia) responsible for the geomonitoring system (SMGeo Direto) is approximately BRL 2.0 million per year.</p> <p>Direct and Indirect costs and CAPEX</p> <p>Situation: transition risks arising from the establishment of carbon markets (or carbon tax) in locations where the Company operates have been monitored since Minerva Foods might be liable to pay high fees due to GHG emissions from its own operations and supply chain.</p> <p>Task: considering the 2022 corporate GHG inventory, approximately 69% of Minerva Foods' Scope 1 emissions are concentrated in Effluent Treatment Stations and Scope 2 emissions represents 11% of Minerva Foods' Scopes 1 and 2 emissions (location-based approach).</p> <p>Action and Result: throughout 2021, Minerva Foods developed a study with specialized consultancy to identify and prioritize GHG emissions mitigation projects for scopes 1 and 2. In line with Minerva Foods' decarbonization plan, the Effluent Treatment Station at the José Bonifácio business unit in Brazil was modernized in 2022, aiming to improve treatment efficiency and reduce GHG emissions. Other initiative of GHG reduction emission at this plant still under investigation Among the short-term initiatives to reach net-zero, since 2020, Minerva Foods acquires Renewable Energy Certificates (I-RECs) for all business units. In 2022, wind energy certificates were acquired for operations in Brazil and hydroelectric energy certificates for other countries in South America and Australia. No certificates were acquired for the operations in Paraguay, as the local energy matrix only comprises energy from renewable sources. The I-RECs Purchase process were care out by Minerva Energia, a subsidiary company from Minerva Foods. The total cost of all I-RECs was BRL 399,299.12.</p> <p>Capital Allocation</p> <p>Situation: Minerva Foods is subject to reputational risks linked to climate change, for example, that livestock is one of the most intensive sectors in GHG emissions due to animal enteric fermentation and deforestation for expansion of animal production in South America. In this sense, there is the possibility of changing the habits of animal protein consumers who can reduce or replace the product with alternative proteins.</p> <p>Task: therefore, Minerva Foods has sought to diversify investments in sectors related to its core business.</p> <p>Action: Minerva Foods' first venture capital investment was in the EVERY company, formerly Clara Foods, a biotechnology company that develops fermentation-derived proteins. The company's products can be used in a wide variety of applications, including baking, as a nutritional supplement and as a protein booster for foods and beverages.</p> <p>Result: the EVERY company is currently selling animal-free pepsin through a distribution partner and the first egg white protein is also available for commercial sale.</p>

C3.5

(C3.5) In your organization's financial accounting, do you identify spending/revenue that is aligned with your organization's climate transition?

	Identification of spending/revenue that is aligned with your organization's climate transition	Indicate the level at which you identify the alignment of your spending/revenue with a sustainable finance taxonomy
Row 1	No, but we plan to in the next two years	<Not Applicable>

C4. Targets and performance

C4.1

(C4.1) Did you have an emissions target that was active in the reporting year?

Intensity target

C4.1b

(C4.1b) Provide details of your emissions intensity target(s) and progress made against those target(s).

Target reference number

Int 1

Is this a science-based target?

No, but we anticipate setting one in the next two years

Target ambition

<Not Applicable>

Year target was set

2021

Target coverage

Company-wide

Scope(s)

Scope 1

Scope 2

Scope 2 accounting method

Market-based

Scope 3 category(ies)

<Not Applicable>

Intensity metric

Metric tons CO2e per metric ton of product

Base year

2020

Intensity figure in base year for Scope 1 (metric tons CO2e per unit of activity)

0.16

Intensity figure in base year for Scope 2 (metric tons CO2e per unit of activity)

0

Intensity figure in base year for Scope 3, Category 1: Purchased goods and services (metric tons CO2e per unit of activity)

<Not Applicable>

Intensity figure in base year for Scope 3, Category 2: Capital goods (metric tons CO2e per unit of activity)

<Not Applicable>

Intensity figure in base year for Scope 3, Category 3: Fuel-and-energy-related activities (not included in Scopes 1 or 2) (metric tons CO2e per unit of activity)

<Not Applicable>

Intensity figure in base year for Scope 3, Category 4: Upstream transportation and distribution (metric tons CO2e per unit of activity)

<Not Applicable>

Intensity figure in base year for Scope 3, Category 5: Waste generated in operations (metric tons CO2e per unit of activity)

<Not Applicable>

Intensity figure in base year for Scope 3, Category 6: Business travel (metric tons CO2e per unit of activity)

<Not Applicable>

Intensity figure in base year for Scope 3, Category 7: Employee commuting (metric tons CO2e per unit of activity)

<Not Applicable>

Intensity figure in base year for Scope 3, Category 8: Upstream leased assets (metric tons CO2e per unit of activity)

<Not Applicable>

Intensity figure in base year for Scope 3, Category 9: Downstream transportation and distribution (metric tons CO2e per unit of activity)

<Not Applicable>

Intensity figure in base year for Scope 3, Category 10: Processing of sold products (metric tons CO2e per unit of activity)

<Not Applicable>

Intensity figure in base year for Scope 3, Category 11: Use of sold products (metric tons CO2e per unit of activity)

<Not Applicable>

Intensity figure in base year for Scope 3, Category 12: End-of-life treatment of sold products (metric tons CO2e per unit of activity)

<Not Applicable>

Intensity figure in base year for Scope 3, Category 13: Downstream leased assets (metric tons CO2e per unit of activity)

<Not Applicable>

Intensity figure in base year for Scope 3, Category 14: Franchises (metric tons CO2e per unit of activity)

<Not Applicable>

Intensity figure in base year for Scope 3, Category 15: Investments (metric tons CO2e per unit of activity)

<Not Applicable>

Intensity figure in base year for Scope 3, Other (upstream) (metric tons CO2e per unit of activity)

<Not Applicable>

Intensity figure in base year for Scope 3, Other (downstream) (metric tons CO2e per unit of activity)

<Not Applicable>

Intensity figure in base year for total Scope 3 (metric tons CO2e per unit of activity)

<Not Applicable>

Intensity figure in base year for all selected Scopes (metric tons CO2e per unit of activity)

0.16

% of total base year emissions in Scope 1 covered by this Scope 1 intensity figure

100

% of total base year emissions in Scope 2 covered by this Scope 2 intensity figure

100

% of total base year emissions in Scope 3, Category 1: Purchased goods and services covered by this Scope 3, Category 1: Purchased goods and services intensity figure

<Not Applicable>

% of total base year emissions in Scope 3, Category 2: Capital goods covered by this Scope 3, Category 2: Capital goods intensity figure

<Not Applicable>

% of total base year emissions in Scope 3, Category 3: Fuel-and-energy-related activities (not included in Scopes 1 or 2) covered by this Scope 3, Category 3: Fuel-and-energy-related activities (not included in Scopes 1 or 2) intensity figure

<Not Applicable>

% of total base year emissions in Scope 3, Category 4: Upstream transportation and distribution covered by this Scope 3, Category 4: Upstream transportation and distribution intensity figure

<Not Applicable>

% of total base year emissions in Scope 3, Category 5: Waste generated in operations covered by this Scope 3, Category 5: Waste generated in operations intensity figure

<Not Applicable>

% of total base year emissions in Scope 3, Category 6: Business travel covered by this Scope 3, Category 6: Business travel intensity figure

<Not Applicable>

% of total base year emissions in Scope 3, Category 7: Employee commuting covered by this Scope 3, Category 7: Employee commuting intensity figure

<Not Applicable>

% of total base year emissions in Scope 3, Category 8: Upstream leased assets covered by this Scope 3, Category 8: Upstream leased assets intensity figure

<Not Applicable>

% of total base year emissions in Scope 3, Category 9: Downstream transportation and distribution covered by this Scope 3, Category 9: Downstream transportation and distribution intensity figure

<Not Applicable>

% of total base year emissions in Scope 3, Category 10: Processing of sold products covered by this Scope 3, Category 10: Processing of sold products intensity figure

<Not Applicable>

% of total base year emissions in Scope 3, Category 11: Use of sold products covered by this Scope 3, Category 11: Use of sold products intensity figure

<Not Applicable>

% of total base year emissions in Scope 3, Category 12: End-of-life treatment of sold products covered by this Scope 3, Category 12: End-of-life treatment of sold products intensity figure

<Not Applicable>

% of total base year emissions in Scope 3, Category 13: Downstream leased assets covered by this Scope 3, Category 13: Downstream leased assets intensity figure

<Not Applicable>

% of total base year emissions in Scope 3, Category 14: Franchises covered by this Scope 3, Category 14: Franchises intensity figure

<Not Applicable>

% of total base year emissions in Scope 3, Category 15: Investments covered by this Scope 3, Category 15: Investments intensity figure

<Not Applicable>

% of total base year emissions in Scope 3, Other (upstream) covered by this Scope 3, Other (upstream) intensity figure

<Not Applicable>

% of total base year emissions in Scope 3, Other (downstream) covered by this Scope 3, Other (downstream) intensity figure

<Not Applicable>

% of total base year emissions in Scope 3 (in all Scope 3 categories) covered by this total Scope 3 intensity figure

<Not Applicable>

% of total base year emissions in all selected Scopes covered by this intensity figure

100

Target year

2030

Targeted reduction from base year (%)

30

Intensity figure in target year for all selected Scopes (metric tons CO2e per unit of activity) [auto-calculated]

% change anticipated in absolute Scope 1+2 emissions

0

% change anticipated in absolute Scope 3 emissions

0

Intensity figure in reporting year for Scope 1 (metric tons CO2e per unit of activity)

Intensity figure in reporting year for Scope 2 (metric tons CO2e per unit of activity)

Intensity figure in reporting year for Scope 3, Category 1: Purchased goods and services (metric tons CO2e per unit of activity)

<Not Applicable>

Intensity figure in reporting year for Scope 3, Category 2: Capital goods (metric tons CO2e per unit of activity)

<Not Applicable>

Intensity figure in reporting year for Scope 3, Category 3: Fuel-and-energy-related activities (not included in Scopes 1 or 2) (metric tons CO2e per unit of activity)

<Not Applicable>

Intensity figure in reporting year for Scope 3, Category 4: Upstream transportation and distribution (metric tons CO2e per unit of activity)

<Not Applicable>

Intensity figure in reporting year for Scope 3, Category 5: Waste generated in operations (metric tons CO2e per unit of activity)

<Not Applicable>

Intensity figure in reporting year for Scope 3, Category 6: Business travel (metric tons CO2e per unit of activity)

<Not Applicable>

Intensity figure in reporting year for Scope 3, Category 7: Employee commuting (metric tons CO2e per unit of activity)

<Not Applicable>

Intensity figure in reporting year for Scope 3, Category 8: Upstream leased assets (metric tons CO2e per unit of activity)

<Not Applicable>

Intensity figure in reporting year for Scope 3, Category 9: Downstream transportation and distribution (metric tons CO2e per unit of activity)

<Not Applicable>

Intensity figure in reporting year for Scope 3, Category 10: Processing of sold products (metric tons CO2e per unit of activity)

<Not Applicable>

Intensity figure in reporting year for Scope 3, Category 11: Use of sold products (metric tons CO2e per unit of activity)

<Not Applicable>

Intensity figure in reporting year for Scope 3, Category 12: End-of-life treatment of sold products (metric tons CO2e per unit of activity)

<Not Applicable>

Intensity figure in reporting year for Scope 3, Category 13: Downstream leased assets (metric tons CO2e per unit of activity)

<Not Applicable>

Intensity figure in reporting year for Scope 3, Category 14: Franchises (metric tons CO2e per unit of activity)

<Not Applicable>

Intensity figure in reporting year for Scope 3, Category 15: Investments (metric tons CO2e per unit of activity)

<Not Applicable>

Intensity figure in reporting year for Scope 3, Other (upstream) (metric tons CO2e per unit of activity)

<Not Applicable>

Intensity figure in reporting year for Scope 3, Other (downstream) (metric tons CO2e per unit of activity)

<Not Applicable>

Intensity figure in reporting year for total Scope 3 (metric tons CO2e per unit of activity)

<Not Applicable>

Intensity figure in reporting year for all selected Scopes (metric tons CO2e per unit of activity)

0

Does this target cover any land-related emissions?

No, it does not cover any land-related emissions (e.g. non-FLAG SBT)

% of target achieved relative to base year [auto-calculated]

Target status in reporting year

Underway

Please explain target coverage and identify any exclusions

The target considers a 30% reduction in the intensity of GHG emissions by 2030 for Scopes 1 and 2. The unit of measurement used is GHG emissions in relation to the ton of finished product (tCO2e/TPA).

For the calculation of emissions, only confinement farm operations (CSAP) were excluded, which represents 13.9% of the Company's total Scope 1 and 2 emissions. To calculate the TPA (Tons of Finished Product), industrial operations were considered (which represent 85.9% of the Company's Scope 1 and 2 emissions), excluding Distribution Centers and the divisions: CSAP (containment farms), Minerva Ingredients, E-Commerce 'Meu Minerva', Minerva Foods Shop, Minerva Biodiesel, Minerva Leather, Minerva Casings and Minerva Energia (which represent 14.1% of the Company's Scope 1 and 2 emissions).

Regarding scope 2 emissions, the Company considers the market approach when accounting for emissions. This approach demonstrates the short-term effort that Minerva Foods has been making by acquiring Renewable Energy Certificates (I-REC) for all its operations to stimulate the production of energy from renewable sources and the adoption of engagement practices with communities and social improvements by power generation companies. Therefore, these emissions are considered zero in the calculation.

At the industrial units in Brazil, in 2022, the consumption of water in side businesses was added to the total amount of wastewater treatment, which reflects the increase in emissions related to effluent treatment. Emissions from this source represent 69% of Minerva Foods' total Scope 1 emissions.

Plan for achieving target, and progress made to the end of the reporting year

In 2021, Minerva Foods hired a specialized consultancy to prepare a study in which it would identify the projects with the greatest potential to contribute to its decarbonization process in relation to scopes 1 and 2. As the main deliverable, a marginal abatement cost curve (MAC) was elaborated.

The main projects within Scope 1 cover changing the technology used in the Effluent Treatment Stations and changing the fuel used in the boilers of the business units in Argentina and Colombia that are not from renewable sources. Regarding scope 2 emissions, identified opportunities covered the generation of energy from solar panels in the units and, as a short-term action, the maintenance of acquisitions of Renewable Energy Certificates (I-REC).

At the end of 2022, the total emission showed an increase instead of a decrease, due to the incorporation of emissions from operations not previously covered: Brazil - seven CSAP feedlot farms, an office, 'Meu Minerva' e-commerce, Minerva Ingredients and Minerva Energia; USA - a third-party distribution center; Australia - two business units acquired at the end of 2021.

Baseline data (2020 Scopes 1 and 2) is being analyzed based on these 14 business units added and, if necessary, recalculation will be disclosed in the next report.

List the emissions reduction initiatives which contributed most to achieving this target

<Not Applicable>

C4.2

(C4.2) Did you have any other climate-related targets that were active in the reporting year?

Target(s) to increase low-carbon energy consumption or production

Net-zero target(s)

C4.2a

(C4.2a) Provide details of your target(s) to increase low-carbon energy consumption or production.

Target reference number

Low 1

Year target was set

2021

Target coverage

Company-wide

Target type: energy carrier

Electricity

Target type: activity

Consumption

Target type: energy source

Renewable energy source(s) only

Base year

2020

Consumption or production of selected energy carrier in base year (MWh)

367439

% share of low-carbon or renewable energy in base year

100

Target year

2035

% share of low-carbon or renewable energy in target year

100

% share of low-carbon or renewable energy in reporting year

100

% of target achieved relative to base year [auto-calculated]

<Calculated field>

Target status in reporting year

Underway

Is this target part of an emissions target?

Int 1

Is this target part of an overarching initiative?

No, it's not part of an overarching initiative

Please explain target coverage and identify any exclusions

Although the energy matrix in South America has a relevant share of renewable sources (approximately 53% of the total energy are renewable), there is still room for increasing the production of clean energy.

Minerva Foods established as a goal for scope 2 emissions 100% of the energy consumed in its operations coming from renewable sources.

Although the two new industrial units acquired in Australia in 2022 did not have their emissions recorded in the Company's GHG Inventory (operations came under Minerva Foods' control only in November), renewable energy certificates were acquired for them.

Plan for achieving target, and progress made to the end of the reporting year

Since 2020, Minerva Foods acquires Renewable Energy Certificates (I-RECs) for all business units. The Company was also the first one in Brazil to obtain the Renewable Energy Seal, granted by the Totum Institute in partnership with the Brazilian Association of Wind Energy (ABE Eólica) and the Brazilian Association of Clean Energy Brazilian Association (ABRAGEL).

In 2022, the Company zeroed its Scope 2 emissions, considering the market approach. Wind energy certificates were acquired for operations in Brazil and hydroelectric energy certificates for other countries in South America and Australia. No certificates were acquired for the operations in Paraguay, as the local energy matrix only comprises energy from renewable sources.

The Company carries out studies for investments in renewable energies through the Minerva Energia division.

List the actions which contributed most to achieving this target

<Not Applicable>

C4.2c

(C4.2c) Provide details of your net-zero target(s).

Target reference number

NZ1

Target coverage

Company-wide

Absolute/intensity emission target(s) linked to this net-zero target

Int1

Target year for achieving net zero

2035

Is this a science-based target?

No, but we anticipate setting one in the next two years

Please explain target coverage and identify any exclusions

The goal considers carbon neutrality for scopes 1, 2 and 3 of Minerva Foods' GHG emissions.

Within scopes 1 and 2, all relevant sources of the Company's GHG emissions are included in this target. Scope 1 emissions, according to the Company's GHG Inventory in 2022, are concentrated in Effluent Treatment Stations in industrial operations (69% of total scope 1 emissions), in boilers in industrial operations in Argentina and Colombia that do not use fuel from renewable sources (15% of total scope 1 emissions) and enteric fermentation of animals during the time they are in the feedlots farms of Companhia Sul-Americana de Pecuária - CSAP (12% of total scope 1 emissions).

Within scope 3 emissions, in 2022 a study was carried out to determine which categories are material for Minerva Foods' operations. In addition to the GHG emissions already accounted for in the Company's inventory in Category 1 - Goods and services purchased (enteric fermentation and management of waste from purchased animals), Category 4 - Transport and distribution (upstream), Category 5 - Waste generated in operations, Category 6 – Business trips, and Category 7 – Commuting by employees (home-work), the study indicated that emissions should also be accounted for in Category 1 - Purchased goods and services (other relevant inputs), Category 3 - Fuel and energy not included in Scopes 1 and 2, Category 9 - Transport and distribution (downstream) (transport of green leather to tanneries that provide services to the Minerva Leather division), Category 10 - Processing of products sold and Category 12 - Final treatment of products sold (product packaging).

The new categories, with the exception of categories 3 and 9 which have already been accounted for in the 2022 inventory for all countries, will be included in the 2023 inventory for operations in Argentina, Australia, Colombia, Paraguay and Uruguay.

GHG emissions from categories 2 (capital goods), 8 (upstream leased assets), 11 (processing of sold products) and 15 (investments) were not considered material, as together they represented only 0.57% of total 2020 GHG emissions calculated using Quants methodology (GHG Protocol Tool). Categories 13 (Downstream leased assets) and 14 (Franchises) are not applicable to Minerva Foods operations.

Do you intend to neutralize any unabated emissions with permanent carbon removals at the target year?

Yes

Planned milestones and/or near-term investments for neutralization at target year

As a milestone for Scopes 1 and 2, there is a target that considers a 30% reduction in the intensity of GHG emissions by 2030. The unit of measurement used is GHG emissions in relation to the ton of finished product (tCO₂e/TPA). In line with Minerva Foods' decarbonization plan, the Effluent Treatment Station at the José Bonifácio business unit in Brazil was modernized in 2022, aiming to improve treatment efficiency and reduce GHG emissions. Other initiative of GHG reduction emission at this plant still under investigation Since 2020, Minerva Foods acquires Renewable Energy Certificates (I-RECs) for all business units. In, 2022, wind energy certificates were acquired for operations in Brazil and hydroelectric energy certificates for other countries in South America and Australia. No certificates were acquired for the operations in Paraguay, as the local energy matrix only comprises energy from renewable sources.

Regarding Scope 3 emissions, in 2021, Minerva Foods created the Renove Program. Its purpose is to promote engagement and joint action with rural producers in the adoption of regenerative farming practices that increase productivity and income, in addition to benefiting the environment through lower carbon emissions and sustainable intensification of cattle ranching. The Renove Program is based on three key components: Capacity Building, Green Finance, and Technical and Institutional Partnerships.

As the enteric fermentation of animals on supplier farms represents 97% of the Company's scope 3 emissions according to the latest GHG inventory, there is a milestone to acquire at least 50% of animals from farms participating in the Renove program by 2030.

Planned actions to mitigate emissions beyond your value chain (optional)

C4.3

(C4.3) Did you have emissions reduction initiatives that were active within the reporting year? Note that this can include those in the planning and/or implementation phases.

Yes

C4.3a

(C4.3a) Identify the total number of initiatives at each stage of development, and for those in the implementation stages, the estimated CO₂e savings.

	Number of initiatives	Total estimated annual CO ₂ e savings in metric tonnes CO ₂ e (only for rows marked *)
Under investigation	39	0
To be implemented*	0	0
Implementation commenced*	0	0
Implemented*	3	45776
Not to be implemented		

C4.3b

(C4.3b) Provide details on the initiatives implemented in the reporting year in the table below.

Initiative category & Initiative type

Waste reduction and material circularity	Product/component/material recycling
--	--------------------------------------

Estimated annual CO2e savings (metric tonnes CO2e)

3156

Scope(s) or Scope 3 category(ies) where emissions savings occur

Scope 3 category 12: End-of-life treatment of sold products

Voluntary/Mandatory

Mandatory

Annual monetary savings (unit currency – as specified in C0.4)

0

Investment required (unit currency – as specified in C0.4)

113600

Payback period

No payback

Estimated lifetime of the initiative

Ongoing

Comment

The amount invested considers the payment to the 'Eureciclo' program. The 'Eureciclo' program links cooperatives and collection and recycling operators to participating companies, generating income for these workers and reducing the environmental impact of waste.

In 2022, Minerva Foods once again received the 'Eureciclo' seal, which certifies practices that promote reverse logistics for product packaging. Minerva Foods is the first company in the meat sector to receive this seal in all its lines sold in Brazil.

The program ensures that 22% of the packing from Minerva Foods Brazil has sold in national territory has been recycled. (For São Paulo Stats is 22,5%)

Initiative category & Initiative type

Low-carbon energy consumption	Large hydropower (>25 MW)
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Estimated annual CO2e savings (metric tonnes CO2e)

40961

Scope(s) or Scope 3 category(ies) where emissions savings occur

Scope 2 (market-based)

Voluntary/Mandatory

Voluntary

Annual monetary savings (unit currency – as specified in C0.4)

0

Investment required (unit currency – as specified in C0.4)

399299

Payback period

No payback

Estimated lifetime of the initiative

>30 years

Comment

Since 2020, the Minerva Foods acquires Renewable Energy Certificates (I-RECs) for all business units. The Company was also the first one in Brazil to obtain the Renewable Energy Seal, granted by the Totum Institute in partnership with the Brazilian Association of Wind Energy (ABE Eólica) and the Brazilian Association of Clean Energy Brazilian Association (ABRAGEL).

In 2022, the Company zeroed its Scope 2 emissions, considering the market approach. Wind energy certificates were acquired for operations in Brazil and hydroelectric energy certificates for other countries in South America and Australia. No certificates were acquired for the operations in Paraguay, as the local energy matrix only comprises energy from renewable sources.

The Company carries out studies for investments in renewable energies through the Minerva Energia division.

Initiative category & Initiative type

Non-energy industrial process emissions reductions	Other, please specify (Waste management)
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Estimated annual CO2e savings (metric tonnes CO2e)

1659

Scope(s) or Scope 3 category(ies) where emissions savings occur

Scope 1

Voluntary/Mandatory

Voluntary

Annual monetary savings (unit currency – as specified in C0.4)

0

Investment required (unit currency – as specified in C0.4)

4500000

Payback period

No payback

Estimated lifetime of the initiative

Ongoing

Comment

In 2022, Minerva Foods modernized an Effluent Treatment Station at the José Bonifácio business unit, in Brazil, with the aim of improving treatment efficiency and reducing GHG emissions. Other initiative of GHG reduction emission at this plant still under investigation.

C4.3c**(C4.3c) What methods do you use to drive investment in emissions reduction activities?**

Method	Comment
Compliance with regulatory requirements/standards	Given the nature and complexity of the Company's operations, it is subject to strict environmental legislation in the countries where it operates. As an example, in Brazil, the National Council for the Environment (CONAMA) and IBAMA (Brazilian Institute of Environment and Renewable Natural Resources), determine parameters for atmospheric emissions, deforestation, liquid effluents and solid waste as conditions for obtaining environmental licenses. Due to the extreme importance of agriculture in climate mitigation and adaptation processes, Minerva Foods is also covered by the National Policy on Climate Change (PNMC), established by Law 12,187/2009, which legislates on the reduction of greenhouse gas emissions in its guidelines. In addition, the Brazilian NDC (Nationally Determined Contribution), whose base year is 2005, aims to reduce total net emissions of greenhouse gases by 37% by 2025 and by up to 50% by 2030, in addition to achieving climate neutrality by 2050. Also in 2023, as a publicly traded company, Minerva Foods began to comply with Resolution 59 of the Brazilian Securities and Exchange Commission (CVM), which provides for the obligation to disclose information on ESG practices in the Reference Form. Projects that are within the decarbonization plan and meet legal requirements must be prioritized.
Employee engagement	Minerva Foods seeks to ensure that the Company's business model is aligned with sustainable development practices. In this sense, the Company launched in 2021 its Commitment to Sustainability focused on the environmental pillar of its sustainability agenda called 'Dedication to the Planet'. The commitment aims to achieve zero net emissions by 2035 – 15 years ahead of the Paris Agreement – and for this purpose Minerva Foods has defined a series of goals focused on combating illegal deforestation and promoting sustainable livestock practices in its value chain. For this, Minerva Foods is working on three major axes: 1. Eco-efficiency in controlled operations; 2. Combating illegal deforestation in the value chain; and 3. Development of the Renove program on partner farms. Sustainability is a corporate value and, together with the Commitment to Sustainability, it has been worked with all employees as a common objective.
Internal incentives/recognition programs	The operational efficiency program adopted by Minerva Foods in Brazil in recent years has shown excellent results. The "Atitude Campeã" program aims to promote integration, the exchange of good practices and the engagement of employees in the continuous improvement of processes. The program seeks greater operational efficiency through healthy competition between business units (with monetary and non-monetary incentives) by measuring key indicators (for example: reduction/efficiency in the consumption of inputs - water, energy, packaging, etc. - and compliance with environmental standards) with an impact on greenhouse gas emissions. Analysis of key indicators is carried out monthly, scoring the best business units and departments, and the best are awarded. In 2021 the program methodology used to assess the indicators was revised, bringing new guidelines and assessment items. The monetary bonus is proportional to the podium position. The first place receives a bonus of 100% of the monthly salary, the second place receives a bonus of 50% of the monthly salary and the third place 25% of the monthly salary.
Internal incentives/recognition programs	The CMQ Program – "Círculo Minerva de Qualidade", encourages employees at industrial units to form groups of volunteers to identify improvements in operational efficiency, work safety, eco-efficiency, among others. Participants receive methodological training to support the structuring of projects and meet periodically for discussion and planning. CMQ was implemented in all business units during 2020 and 2021 in Brazil. This program presents employees with symbolic prizes, such as a special lunch, bags, bottles, restaurant vouchers, etc.
Marginal abatement cost curve	In 2021, Minerva Foods hired a specialized consultancy to prepare a study in which it would identify the projects with the greatest potential to contribute to its decarbonization process in relation to scopes 1 and 2. As the main deliverable, a marginal abatement cost curve (MAC) was elaborated. The main projects within Scope 1 cover changing the technology used in the Effluent Treatment Stations and changing the fuel used in the boilers of the business units in Argentina and Colombia that are not from renewable sources. Regarding scope 2 emissions, identified opportunities covered the generation of energy from solar panels in the units and, as a short-term action, the maintenance of acquisitions of Renewable Energy Certificates (I-REC).
Partnering with governments on technology development	In 2021, Minerva Foods created the Renove Program. Its purpose is to promote engagement and joint action with rural producers in the adoption of regenerative farming practices that increase productivity and income, in addition to benefiting the environment through lower carbon emissions and sustainable intensification of cattle ranching. The Renove Program is based on three key components: Capacity Building, Green Finance, and Technical and Institutional Partnerships. The program works together with renowned institutions including Embrapa (Brazilian Agricultural Research Corporation) and Imaflores (Institute for Forest and Agricultural Management and Certification) to ensure the use of known and internationally credible methodologies, scientific support, and innovation.

C-AC4.4/C-FB4.4/C-PF4.4**(C-AC4.4/C-FB4.4/C-PF4.4) Do you implement agriculture or forest management practices on your own land with a climate change mitigation and/or adaptation benefit?**

No

C4.5**(C4.5) Do you classify any of your existing goods and/or services as low-carbon products?**

Yes

C4.5a**(C4.5a) Provide details of your products and/or services that you classify as low-carbon products.****Level of aggregation**

Product or service

Taxonomy used to classify product(s) or service(s) as low-carbon

Green Bond Principles (ICMA)

Type of product(s) or service(s)

Biofuels	Other, please specify (biodiesel from animal tallow, in addition to materials such as soy, coconut and chicken fat)
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Description of product(s) or service(s)

Situation: as a signatory part of the Paris Agreement, the Brazilian state has established goals to reduce GHG emissions. The country intends to increase the share of biofuels in its energy matrix and created a program to encourage production.

Task: Minerva Foods, seeking the eco-efficiency of its operations, identified the possibility of using bovine tallow, a by-product of slaughter, as a raw material in the production of biodiesel and participating in the stimulus program of the Brazilian state.

Action: Minerva Biodiesel, created in 2011 produces biodiesel from animal tallow, in addition to materials such as soy, coconut and chicken fat, and was certified in 2021 by RenovaBio, a component of the Brazilian Decarbonization Program. After certification, the Company becomes eligible to issue Decarbonization Credits (CBios) for sale to fuel distribution companies. CBios credits also increase the Company's capacity to generate economic benefits, attract investors and obtain faster access to more competitive financing. In addition to tallow, Minerva Biodiesel buys non-cattle raw material from around 50 small producers to produce biodiesel.

Result: With a business unit in Palmeiras de Goiás, Brazil, Minerva Biodiesel has a production capacity of 200m³/day. Minerva Biodiesel sold 63,886 CBios in 2022.

Have you estimated the avoided emissions of this low-carbon product(s) or service(s)

Yes

Methodology used to calculate avoided emissions

Other, please specify (Renovabio methodology)

Life cycle stage(s) covered for the low-carbon product(s) or services(s)

Use stage

Functional unit used

1 CBio is equivalent to 1 ton of CO₂e emission avoided

Reference product/service or baseline scenario used

Use of fossil fuel for the same amount of energy generated by Biodiesel.

Life cycle stage(s) covered for the reference product/service or baseline scenario

Use stage

Estimated avoided emissions (metric tons CO₂e per functional unit) compared to reference product/service or baseline scenario

63886

Explain your calculation of avoided emissions, including any assumptions

The GHG emissions from each biofuel life cycle process are estimated according to the IPCC (2006). The sum of these emissions results in the carbon intensity of the biofuel in gCO₂eq/MJ which, subtracted from the carbon intensity of its equivalent fossil fuel, generates the energy-environmental efficiency score of the biofuel, and gives access to decarbonization credits, with market value.

Minerva Biodiesel sold 63,886 CBios (Credits of bio combustible) in 2022.

Revenue generated from low-carbon product(s) or service(s) as % of total revenue in the reporting year

0.012

Level of aggregation

Product or service

Taxonomy used to classify product(s) or service(s) as low-carbon

No taxonomy used to classify product(s) or service(s) as low carbon

Type of product(s) or service(s)

Other	Other, please specify (Carbon neutral meat)
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Description of product(s) or service(s)

Situation: the Company seeks to ensure that its business model is aligned with sustainable development practices.

Task: with the objective of offering a product aligned with the strategies of its clients regarding the climate agenda, Minerva Foods sought to develop its 1st line of carbon neutral meat.

Action: in 2021, Minerva Foods created the Renove Program with the aim of engagement and joint action with rural producers in the adoption of regenerative farming practices that increase productivity and income, in addition to benefiting the environment through lower carbon emissions and sustainable intensification of cattle ranching. The program is based on: Capacity Building, Green Finance, and Technical and Institutional Partnerships.

Result: through the program, carbon neutral beef was exported to customers in the USA, Spain and Italy, among other countries, from Brazil and Uruguay. Partnership farms, the Company's industrial units and logistics operations had their carbon footprints audited and certified with the 'CO₂ Neutral' seal by an independent organization, with certification systems in more than 100 countries. The industry's data came from the Company's annual GHG inventory (methodology - Brazilian Program GHG Protocol) and the emissions from supplier farms were calculated from primary data using the GHG Protocol Agricultural methodology. The offsetting necessary was transacted by MyCarbon, through carbon credits from tree planting and forest preservation projects.

Have you estimated the avoided emissions of this low-carbon product(s) or service(s)

No

Methodology used to calculate avoided emissions

<Not Applicable>

Life cycle stage(s) covered for the low-carbon product(s) or services(s)

<Not Applicable>

Functional unit used

<Not Applicable>

Reference product/service or baseline scenario used

<Not Applicable>

Life cycle stage(s) covered for the reference product/service or baseline scenario

<Not Applicable>

Estimated avoided emissions (metric tons CO₂e per functional unit) compared to reference product/service or baseline scenario

<Not Applicable>

Explain your calculation of avoided emissions, including any assumptions

<Not Applicable>

C5. Emissions methodology

C5.1

(C5.1) Is this your first year of reporting emissions data to CDP?

No

C5.1a

(C5.1a) Has your organization undergone any structural changes in the reporting year, or are any previous structural changes being accounted for in this disclosure of emissions data?

Row 1

Has there been a structural change?

Yes, an acquisition

Name of organization(s) acquired, divested from, or merged with

Two industrial units located on the west coast of Australia were acquired at the end of 2021 and included in Minerva Foods' 2022 Emissions Inventory: Shark Lake and Great Eastern Abattoir.

Details of structural change(s), including completion dates

In the GHG emissions inventory, base year 2022, the emissions of the two plants acquired in Australia at the end of 2021 (Shark Lake and Great Eastern Abattoir) were included.

These units represent 0.01% of Scope 1 emissions in 2022, as they entered into operation only in July 2022.

In 2022, Minerva Foods acquired two more industrial units (Colac and Sunshine) in the country (Australian Lamb Company). Emissions from these new operations must be accounted for in the GHG emissions inventory, base year 2023

C5.1b

(C5.1b) Has your emissions accounting methodology, boundary, and/or reporting year definition changed in the reporting year?

	Change(s) in methodology, boundary, and/or reporting year definition?	Details of methodology, boundary, and/or reporting year definition change(s)
Row 1	Yes, a change in methodology Yes, a change in boundary	<p>Boundary: A study was carried out in 2022 to determine which Scope 3 categories are material for Minerva Foods' operations. In addition to the GHG emissions already accounted for in the Company's inventory in Category 1 (enteric fermentation and management of waste from purchased animals), and categories 4, 5, 6 and 7, the study indicated that emissions should also be accounted for in Category 1 (other relevant inputs) and categories 3, 9 (transport of green leather to tanneries that provide services to the Minerva Leather division), 10 and 12 (product packaging).</p> <p>The new categories, with the exception of categories 3 and 9 which have already been accounted for in the 2022 inventory for all countries, will be included in the 2023 inventory for operations in Argentina, Australia, Colombia, Paraguay and Uruguay.</p> <p>GHG emissions from categories 2 (capital goods), 8 (upstream leased assets), 11 (processing of sold products) and 15 (investments) were not considered material, as together they represented only 0.57% of total 2020 GHG emissions calculated using Quants methodology (GHG Protocol Tool). Categories 13 (Downstream leased assets) and 14 (Franchises) are not applicable to Minerva Foods operations.</p> <p>Emissions from operations not yet covered were also incorporated into the 2022 GHG Inventory: Brazil - seven CSAP feedlot farms, an office, 'Meu Minerva' e-commerce, Minerva Ingredients and Minerva Energia; USA - a third-party distribution center; Australia - two business units acquired at the end of 2021. Baseline data (2020 Scopes 1 and 2) is being analyzed based on these 14 business units added and, if necessary, recalculation will be disclosed in the next report.</p> <p>Methodology: in 2022, another significant change in the Company's emissions inventory resulted from the improvement of the methodology for calculating enteric fermentation and the management of waste from animals acquired in Brazil (Scope 3), based on studies carried out. The new methodology accounts for the age of the cattle and the length of stay in each type of property (confinement, semi-confinement, pasture and confinement to pasture), according to the emission factors of the IV Brazilian Inventory of Anthropogenic Emissions and Gas Removal Greenhouse of the Ministry of Science, Technology, Innovations and Communications (2020).</p>

C5.1c

(C5.1c) Have your organization's base year emissions and past years' emissions been recalculated as a result of any changes or errors reported in C5.1a and/or C5.1b?

	Base year recalculation	Scope(s) recalculated	Base year emissions recalculation policy, including significance threshold	Past years' recalculation
Row 1	Yes	Scope 3	<p>According to the CDP Guide to define of a single base year for scope 3 emissions, Minerva Foods will report scope 3 emissions for the year 2022 as its baseline</p> <p>The baseline data (2020 scopes 1 and 2) is being analyzed due to those 14 more operation units and, if necessary to recalculated, it will be released in the next report.</p>	No

(C5.2) Provide your base year and base year emissions.**Scope 1****Base year start**

January 1 2020

Base year end

December 31 2020

Base year emissions (metric tons CO2e)

233275

Comment

Minerva Foods' GHG inventories were audited and received the Gold Seal of the Brazilian GHG Protocol Program in 2020 and 2021. The 2022 inventory is also eligible to get a "Gold Seal" once again.

Scope 2 (location-based)**Base year start**

January 1 2020

Base year end

December 31 2020

Base year emissions (metric tons CO2e)

14591

Comment

Minerva Foods' GHG inventories were audited and received the Gold Seal of the Brazilian GHG Protocol Program in 2020 and 2021. The 2022 inventory is also eligible to get a "Gold Seal" once again.

Scope 2 (market-based)**Base year start**

January 1 2020

Base year end

December 31 2020

Base year emissions (metric tons CO2e)

0

Comment

Since 2020, the Company acquires Renewable Energy Certificates (I-RECs) for all business units. In 2022, wind energy certificates were acquired for operations in Brazil and hydroelectric energy certificates for other countries in South America and Australia. No certificates were acquired for the operations in Paraguay, as the local energy matrix only comprises energy from renewable sources. Through certificates, the Company zeroed its Scope 2 emissions (market approach).

Minerva Foods' GHG inventories were audited and received the Gold Seal of the Brazilian GHG Protocol Program in 2020 and 2021. The 2022 inventory is also eligible to get a "Gold Seal" once again.

Scope 3 category 1: Purchased goods and services**Base year start**

January 1 2022

Base year end

December 31 2022

Base year emissions (metric tons CO2e)

17250146

Comment

Minerva Foods' GHG inventories were audited and received the Gold Seal of the Brazilian GHG Protocol Program in 2020 and 2021. The 2022 inventory is also eligible to get a "Gold Seal" once again.

Scope 3 category 2: Capital goods**Base year start****Base year end****Base year emissions (metric tons CO2e)****Comment**

In 2022, Minerva Foods hired a specialized consultancy to carry out a materiality study on scope 3 GHG emissions. The study concluded that GHG emissions from categories 2 (capital goods), 8 (upstream leased assets), 11 (processing of sold products) and 15 (investments) were not considered material, as together they represented only 0.57% of total 2020 GHG emissions calculated using Quants methodology (GHG Protocol Tool). Categories 13 (Downstream leased assets) and 14 (Franchises) are not applicable to Minerva Foods operations.

Minerva Foods' GHG inventories were audited and received the Gold Seal of the Brazilian GHG Protocol Program in 2020 and 2021. The 2022 inventory is also eligible to get a "Gold Seal" once again.

Scope 3 category 3: Fuel-and-energy-related activities (not included in Scope 1 or 2)

Base year start

January 1 2022

Base year end

December 31 2022

Base year emissions (metric tons CO2e)

25176

Comment

Minerva Foods' GHG inventories were audited and received the Gold Seal of the Brazilian GHG Protocol Program in 2020 and 2021. The 2022 inventory is also eligible to get a "Gold Seal" once again.

Scope 3 category 4: Upstream transportation and distribution

Base year start

January 1 2022

Base year end

December 31 2022

Base year emissions (metric tons CO2e)

243203

Comment

Minerva Foods' GHG inventories were audited and received the Gold Seal of the Brazilian GHG Protocol Program in 2020 and 2021. The 2022 inventory is also eligible to get a "Gold Seal" once again.

Scope 3 category 5: Waste generated in operations

Base year start

January 1 2022

Base year end

December 31 2022

Base year emissions (metric tons CO2e)

52256

Comment

Minerva Foods' GHG inventories were audited and received the Gold Seal of the Brazilian GHG Protocol Program in 2020 and 2021. The 2022 inventory is also eligible to get a "Gold Seal" once again.

Scope 3 category 6: Business travel

Base year start

January 1 2022

Base year end

December 31 2022

Base year emissions (metric tons CO2e)

2408

Comment

Scope 3 category 7: Employee commuting

Base year start

January 1 2022

Base year end

December 31 2022

Base year emissions (metric tons CO2e)

3178

Comment

Minerva Foods' GHG inventories were audited and received the Gold Seal of the Brazilian GHG Protocol Program in 2020 and 2021. The 2022 inventory is also eligible to get a "Gold Seal" once again.

Scope 3 category 8: Upstream leased assets

Base year start

Base year end

Base year emissions (metric tons CO2e)

Comment

In 2022, Minerva Foods hired a specialized consultancy to carry out a materiality study on scope 3 GHG emissions. The study concluded that GHG emissions from categories 2 (capital goods), 8 (upstream leased assets), 11 (processing of sold products) and 15 (investments) were not considered material, as together they represented only 0.57% of total 2020 GHG emissions calculated using Quants methodology (GHG Protocol Tool). Categories 13 (Downstream leased assets) and 14 (Franchises) are not applicable to Minerva Foods operations. Minerva Foods' GHG inventories were audited and received the Gold Seal of the Brazilian GHG Protocol Program in 2020 and 2021. The 2022 inventory is also eligible to get a "Gold Seal" once again.

Scope 3 category 9: Downstream transportation and distribution

Base year start

January 1 2022

Base year end

December 31 2022

Base year emissions (metric tons CO2e)

1102

Comment

In 2022, Minerva Foods hired a specialized consultancy to carry out a materiality study on scope 3 GHG emissions. The study concluded that GHG emissions from category 9 - Transport and distribution (downstream) represents 0.09% of total 2020 GHG emissions calculated using Quants methodology (GHG Protocol Tool).

Despite of that, Minerva Leather has included in its GHG sources emissions the transport of green leather to the tanneries that provide leather treatment services in Brazil. The date in Colombia and Paraguay will be reported in 2023 GHG Inventory.

Minerva Foods' GHG inventories were audited and received the Gold Seal of the Brazilian GHG Protocol Program in 2020 and 2021. The 2022 inventory is also eligible to get a "Gold Seal" once again.

Scope 3 category 10: Processing of sold products

Base year start

January 1 2022

Base year end

December 31 2022

Base year emissions (metric tons CO2e)

2237

Comment

Minerva Foods' GHG inventories were audited and received the Gold Seal of the Brazilian GHG Protocol Program in 2020 and 2021. The 2022 inventory is also eligible to get a "Gold Seal" once again.

Scope 3 category 11: Use of sold products

Base year start**Base year end****Base year emissions (metric tons CO2e)****Comment**

In 2022, Minerva Foods hired a specialized consultancy to carry out a materiality study on scope 3 GHG emissions. The study concluded that GHG emissions from categories 2 (capital goods), 8 (upstream leased assets), 11 (processing of sold products) and 15 (investments) were not considered material, as together they represented only 0.57% of total 2020 GHG emissions calculated using Quants methodology (GHG Protocol Tool). Categories 13 (Downstream leased assets) and 14 (Franchises) are not applicable to Minerva Foods operations.

Minerva Foods' GHG inventories were audited and received the Gold Seal of the Brazilian GHG Protocol Program in 2020 and 2021. The 2022 inventory is also eligible to get a "Gold Seal" once again.

Scope 3 category 12: End of life treatment of sold products

Base year start

January 1 2022

Base year end

December 31 2022

Base year emissions (metric tons CO2e)

55459

Comment

Minerva Foods' GHG inventories were audited and received the Gold Seal of the Brazilian GHG Protocol Program in 2020 and 2021. The 2022 inventory is also eligible to get a "Gold Seal" once again.

Scope 3 category 13: Downstream leased assets

Base year start**Base year end****Base year emissions (metric tons CO2e)****Comment**

Not applicable. Minerva Foods has no Downstream leased assets.

Scope 3 category 14: Franchises

Base year start**Base year end****Base year emissions (metric tons CO2e)****Comment**

Not applicable. Minerva Foods does not operate through franchises.

Scope 3 category 15: Investments

Base year start

Base year end

Base year emissions (metric tons CO2e)

Comment

In 2022, Minerva Foods hired a specialized consultancy to carry out a materiality study on scope 3 GHG emissions. The study concluded that GHG emissions from categories 2 (capital goods), 8 (upstream leased assets), 11 (processing of sold products) and 15 (investments) were not considered material, as together they represented only 0.57% of total 2020 GHG emissions calculated using Quants methodology (GHG Protocol Tool). Categories 13 (Downstream leased assets) and 14 (Franchises) are not applicable to Minerva Foods operations.

Minerva Foods' GHG inventories were audited and received the Gold Seal of the Brazilian GHG Protocol Program in 2020 and 2021. The 2022 inventory is also eligible to get a "Gold Seal" once again.

Scope 3: Other (upstream)

Base year start

Base year end

Base year emissions (metric tons CO2e)

Comment

N/A

Scope 3: Other (downstream)

Base year start

Base year end

Base year emissions (metric tons CO2e)

Comment

N/A

C5.3

(C5.3) Select the name of the standard, protocol, or methodology you have used to collect activity data and calculate emissions.

Brazil GHG Protocol Programme

ISO 14064-1

The Greenhouse Gas Protocol: Scope 2 Guidance

The Greenhouse Gas Protocol: Corporate Value Chain (Scope 3) Standard

C6. Emissions data

C6.1

(C6.1) What were your organization's gross global Scope 1 emissions in metric tons CO2e?

Reporting year

Gross global Scope 1 emissions (metric tons CO2e)

339109

Start date

January 1 2022

End date

December 31 2022

Comment

The increase in emissions in 2022 can be explained by accounting for emissions from operations not covered in previous years' inventories: Brazil - seven CSAP feedlot farms, an office, 'Meu Minerva' e-commerce, Minerva Ingredients and Minerva Energia; USA - outsourced distribution center; Australia - two business units acquired at the end of 2021. The baseline data (2020 Scopes 1 and 2) is being analyzed based on these 14 business units added and, if necessary, the recalculation will be disclosed in the next report. Minerva Foods' GHG inventories were audited and received the Gold Seal of the Brazilian GHG Protocol Program in 2020 and 2021. The 2022 inventory is also eligible to get a "Gold Seal" once again.

Past year 1

Gross global Scope 1 emissions (metric tons CO2e)

283145

Start date

January 1 2021

End date

December 31 2021

Comment

The increase in emissions in 2021 can be explained by the normalization of industrial operations that had been affected in 2020 as a result of the Covid-19 pandemic in 2020. Minerva Foods' GHG inventories were audited and received the Gold Seal of the Brazilian GHG Protocol Program in 2020 and 2021. The 2022 inventory is also eligible to get a "Gold Seal" once again.

C6.2

(C6.2) Describe your organization's approach to reporting Scope 2 emissions.

Row 1

Scope 2, location-based

We are reporting a Scope 2, location-based figure

Scope 2, market-based

We are reporting a Scope 2, market-based figure

Comment

N/A

C6.3

(C6.3) What were your organization's gross global Scope 2 emissions in metric tons CO2e?

Reporting year

Scope 2, location-based

40961

Scope 2, market-based (if applicable)

0

Start date

January 1 2022

End date

December 31 2022

Comment

In 2022, Minerva Foods acquired 353,911 Renewable Energy Certificates (I-RECs), as the electricity consumption of its business units totaled 353,808 MWh, excluding operations in Paraguay, where electricity consumption comes from renewable sources. With this, Minerva Foods reports its scope 2 emissions zeroed by the market approach in its GHG inventory. Minerva Foods' GHG inventories were audited and received the Gold Seal of the Brazilian GHG Protocol Program in 2020 and 2021. The 2022 inventory is also eligible to get a "Gold Seal" once again.

Past year 1

Scope 2, location-based

53093

Scope 2, market-based (if applicable)

0

Start date

January 1 2021

End date

December 31 2021

Comment

In 2021, Minerva Foods acquired 321,695 Renewable Energy Certificates (I-RECs), as the electricity consumption of its business units totalled 388,610 MWh, excluding operations in Paraguay, where electricity consumption comes from renewable sources. With this, Minerva Foods reported its scope 2 emissions zeroed by the market approach in its GHG inventory. Minerva Foods' GHG inventories were audited and received the Gold Seal of the Brazilian GHG Protocol Program in 2020 and 2021. The 2022 inventory is also eligible to get a "Gold Seal" once again.

C6.4

(C6.4) Are there any sources (e.g. facilities, specific GHGs, activities, geographies, etc.) of Scope 1, Scope 2 or Scope 3 emissions that are within your selected reporting boundary which are not included in your disclosure?

Yes

C6.4a

(C6.4a) Provide details of the sources of Scope 1, Scope 2, or Scope 3 emissions that are within your selected reporting boundary which are not included in your disclosure.

Source of excluded emissions

The Company has improved the reporting of its direct and indirect (value chain) GHG emissions each year. Scope 3 reporting began in 2021 for Category 1 – Purchased goods and services (enteric fermentation of purchased animals), Category 4 – Transportation and distribution (upstream), Category 5 – Waste generated in operations, Category 6 – Business travel and Category 7 – Employee commute (home-work). This year, the Company carried out a Scope 3 materiality study with the help of a specialized consulting firm, resulting in a complete GHG management of its value chain. In addition to the categories previously reported (see above), the following categories have been included in the GHG inventory for the Brazilian units: 1 - Purchased goods and services (items considered relevant in the materiality study), Category 3 - Fuel and energy not included in Scopes 1 and 2, Category 9 - Downstream transportation and distribution (transportation of green leather to tanneries providing services to Minerva Leather), Category 10 - Processing of sold products and Category 12 - Final treatment of sold products (Minerva Foods product packaging). Minerva Foods' GHG inventories were audited and received the Gold Seal of the Brazilian GHG Protocol Program in 2020 and 2021. The 2022 inventory is also eligible to get a "Gold Seal" once again.

Scope(s) or Scope 3 category(ies)

Scope 3: Capital goods

Scope 3: Upstream leased assets

Scope 3: Use of sold products

Scope 3: Downstream leased assets

Scope 3: Franchises

Scope 3: Investments

Relevance of Scope 1 emissions from this source

<Not Applicable>

Relevance of location-based Scope 2 emissions from this source

<Not Applicable>

Relevance of market-based Scope 2 emissions from this source

<Not Applicable>

Relevance of Scope 3 emissions from this source

Emissions are not relevant

Date of completion of acquisition or merger

<Not Applicable>

Estimated percentage of total Scope 1+2 emissions this excluded source represents

<Not Applicable>

Estimated percentage of total Scope 3 emissions this excluded source represents

0.6

Explain why this source is excluded

Based on the Scope 3 materiality study which was carried out with the help of a specialized consulting firm, GHG emissions from categories 2 (capital goods), 8 (upstream leased assets), 11 (processing of sold products) and 15 (investments) were not considered material, as together they represented only 0.57% of total 2020 GHG emissions calculated using Quants methodology (GHG Protocol program). Categories 13 (Downstream leased assets) and 14 (Franchises) are not applicable to Minerva Foods operations.

Explain how you estimated the percentage of emissions this excluded source represents

The firm used the data from 2020 to calculate in Quants (GHG Protocol Tool) the emissions in 2020 (baseline of Minerva Foods' Sustainability Commitment). The result was that those categories represent 0.57% only (FLAG and Non-FLAG).

Source of excluded emissions

The Company has improved the reporting of its direct and indirect (value chain) GHG emissions each year. Some categories of the the Scope 3 reporting in 2022 had not be calculated yet for Australia and LATAM (Argentina, Colombia, Paraguay and Uruguay).

In Category 1 (purchased goods and services) only enteric fermentation and waste management of purchased animals were calculated. All categories will be included in the GHG inventory next year

Scope(s) or Scope 3 category(ies)

Scope 3: Downstream transportation and distribution

Scope 3: Processing of sold products

Scope 3: End-of-life treatment of sold products

Relevance of Scope 1 emissions from this source

<Not Applicable>

Relevance of location-based Scope 2 emissions from this source

<Not Applicable>

Relevance of market-based Scope 2 emissions from this source

<Not Applicable>

Relevance of Scope 3 emissions from this source

Emissions are relevant but not yet calculated

Date of completion of acquisition or merger

<Not Applicable>

Estimated percentage of total Scope 1+2 emissions this excluded source represents

<Not Applicable>

Estimated percentage of total Scope 3 emissions this excluded source represents

1.5

Explain why this source is excluded

This source was excluded in 2022 GHG Inventory due to complexity of data collection in different systems of each country (Australia, Argentina, Colombia, Paraguay and Uruguay).

This data will be included in the next year inventory.

Explain how you estimated the percentage of emissions this excluded source represents

The total amount of Brazilian GHG emission of the categories that were not reported for Australia and LATAM industrial units in 2022 is 235,709tCO₂e (category 1 - Purchased goods and services - items considered relevant in the materiality study; Category 9 - Downstream transportation and distribution - transportation of green leather to tanneries providing services to Minerva Leather in Colombia and Paraguay; Category 10 - Processing of sold products and Category 12 - Final treatment of sold products - Minerva Foods product packaging).

Considering that 47% of the Tons of Finished Product (TPA) came from Brazilian industrial units, the quantity of TPA from Australia and LATAM industrial units represents 53%. So, the estimative of emission (proportional to TPA) could be approximately 265,799 tCO₂e. That amount represents 1.5% of 2022 Minerva Foods' Scope 3.

Source of excluded emissions

All Source of emission from two industrial units (Colac and Sunshine) in Australia (Australian Lamb Company).

Emissions from these new operations must be accounted for in the GHG emissions inventory, base year 2023.

In spite of The ALC units in Australia (acquired in in November/2022) are not included at Minerva Foods GHG Inventory, the Company has purchased 3,156 Renewable Energy Certificates (I-RECs) due to energy consumption of 3,153 MWh.

Scope(s) or Scope 3 category(ies)

Scope 1

Scope 2 (location-based)

Scope 3: Purchased goods and services

Scope 3: Fuel and energy-related activities (not included in Scopes 1 or 2)

Scope 3: Upstream transportation and distribution

Scope 3: Waste generated in operations

Scope 3: Business travel

Scope 3: Employee commuting

Scope 3: Processing of sold products
Scope 3: End-of-life treatment of sold products

Relevance of Scope 1 emissions from this source

Emissions excluded due to a recent acquisition or merger

Relevance of location-based Scope 2 emissions from this source

Emissions excluded due to a recent acquisition or merger

Relevance of market-based Scope 2 emissions from this source

<Not Applicable>

Relevance of Scope 3 emissions from this source

Emissions excluded due to a recent acquisition or merger

Date of completion of acquisition or merger

November 30 2022

Estimated percentage of total Scope 1+2 emissions this excluded source represents

<Not Applicable>

Estimated percentage of total Scope 3 emissions this excluded source represents

<Not Applicable>

Explain why this source is excluded

In 2022, Minerva Foods acquired two more industrial units (Colac and Sunshine) in the country (Australian Lamb Company).

Due to a recent acquisition those sources emissions were excluded.

Emissions from these new operations must be accounted for in the GHG emissions inventory, base year 2023.

In spite of The ALC units in Australia (acquired in in November/2022) are not included at Minerva Foods GHG Inventory, the Company has purchased 3,156 Renewable Energy Certificates (I-RECs) due to energy consumption of 3,153 MWh.

Using the data reported in 2022 from the units in Australia (Tammin and Esperance), an estimation was calculated by the proportionality of heads slaughtered for the units not reported in this year (Colac and Sunshine). So, the estimate of emission (proportional to heads slaughtered) is 140tCO₂e from Scope 1 (0.04% of the total 2022 emission), 2399tCO₂e from Scope 2 (5.86% of the total 2022 emission – Location based), and 15,123tCO₂e from Scope 3 (0.09% of the total 2022 emission). Adding the scopes 1+2, the result is 2,533 tCO₂e that represents 0.67% of Minerva Foods' scopes 1+2 – location based.

Explain how you estimated the percentage of emissions this excluded source represents

<Not Applicable>

C6.5

(C6.5) Account for your organization's gross global Scope 3 emissions, disclosing and explaining any exclusions.

Purchased goods and services

Evaluation status

Relevant, calculated

Emissions in reporting year (metric tons CO₂e)

17250146

Emissions calculation methodology

Average data method

Other, please specify (For Latin American and Australia data we use TIER 1 (IPCC data); for BRA data we use TIER 2 (national data recognized by the Ministry of Science, Technology, Innovation and Communication))

Percentage of emissions calculated using data obtained from suppliers or value chain partners

0

Please explain

The largest source of GHG emissions from Minerva Foods in the 2022 inventory is associated with category 1 - purchased goods and services of Scope 3, which includes emissions related to enteric fermentation and manure management throughout the life of the cattle. This is a source that mainly emits methane gas (CH₄).

To calculate greenhouse gas emissions from enteric fermentation and manure management in Brazil, the Company uses local emission factors (TIER 2) based on gender, age, type of production (whether intensive or not) and state of origin of each animal. For business units in Argentina, Australia, Colombia, Paraguay and Uruguay, IPCC reporting emission factors are used.

In 2022, Minerva Foods improved the report for this category. More types of purchased goods (inputs) and services were included, such as cardboard, plastic, rubber that are used in packaging, and chemicals used in production and cleaning. Another example of raw material is the protein purchased by the Minerva Foods Industrializados business unit.

The quantity of goods purchased and the TIER 1 emission factor (IPCC data) were used. Tanning services were also included for the Minerva Leather division. To calculate these emissions, the amount of leather sent to the tannery and the TIER 1 emission factor (IPCC data) were used. Minerva Foods' GHG inventories were audited and received the Gold Seal of the Brazilian GHG Protocol Program in 2020 and 2021. The 2022 inventory is also eligible to get a "Gold Seal" once again.

Capital goods

Evaluation status

Not relevant, explanation provided

Emissions in reporting year (metric tons CO₂e)

<Not Applicable>

Emissions calculation methodology

<Not Applicable>

Percentage of emissions calculated using data obtained from suppliers or value chain partners

<Not Applicable>

Please explain

In 2022, Minerva Foods hired a specialized consultancy to carry out a materiality study on scope 3 GHG emissions. The study concluded that GHG emissions from categories 2 (capital goods), 8 (upstream leased assets), 11 (processing of sold products) and 15 (investments) were not considered material, as together they represented only 0.57% of total 2020 GHG emissions calculated using Quants methodology (GHG Protocol Tool). Categories 13 (Downstream leased assets) and 14 (Franchises) are not applicable to Minerva Foods operations.

Fuel-and-energy-related activities (not included in Scope 1 or 2)

Evaluation status

Relevant, calculated

Emissions in reporting year (metric tons CO₂e)

25176

Emissions calculation methodology

Average product method
Fuel-based method

Percentage of emissions calculated using data obtained from suppliers or value chain partners

0

Please explain

The quantities and types of fuels consumed and the TIER 2 emission factor (data from Brazil) were used to calculate subcategories 3a (upstream emissions from purchased fuels).

The amount of electricity purchased and the TIER 2 emission factor (data from Brazil) were used to calculate subcategories 3c (losses in transmission and distribution - T&D).

Subcategory 3b (upstream emissions from purchased electricity) was not considered in the calculation due to the acquisition of I-RECs by the Company (there were no emissions for extraction, production and transport of fuels consumed in the generation of electricity, considering that the certificates attest to the origin wind and hydroelectric power consumption).

For the Minerva Energia division, a controlled energy trading company, subcategory 3b (upstream emissions from purchased electricity) was considered for non-renewable energy sold to end users of electricity and a TIER 2 emission factor (Brazil data). Minerva Foods' GHG inventories were audited and received the Gold Seal of the Brazilian GHG Protocol Program in 2020 and 2021. The 2022 inventory is also eligible to get a "Gold Seal" once again.

Upstream transportation and distribution

Evaluation status

Relevant, calculated

Emissions in reporting year (metric tons CO₂e)

243203

Emissions calculation methodology

Distance-based method

Percentage of emissions calculated using data obtained from suppliers or value chain partners

0

Please explain

GHG emissions related to transport and distribution (upstream) are concentrated in the maritime modal given the volume of the Company's exports, being the largest source of non-FLAG emissions in scope 3.

Data for accounting for emissions were provided by the logistics area. The calculation took into account the volume of cargo transported (in tons) and the distance traveled (in kilometers) in the different modes of transport.

For the distances covered by road and rail, the 'Google maps' application was used (always considering the greatest distance) and by sea and air, the 'Searates' application was used.

TIER 2 emission factors (by country or grouped as Latin America) were used whenever available. Minerva Foods' GHG inventories were audited and received the Gold Seal of the Brazilian GHG Protocol Program in 2020 and 2021. The 2022 inventory is also eligible to get a "Gold Seal" once again.

Waste generated in operations

Evaluation status

Relevant, calculated

Emissions in reporting year (metric tons CO₂e)

52256

Emissions calculation methodology

Waste-type-specific method

Percentage of emissions calculated using data obtained from suppliers or value chain partners

0

Please explain

GHG emissions mainly related to waste sent to landfill and composting.

To calculate emissions in this category, the total volume or total weight of waste produced (kg/ton/m³), the type of waste generated in operations (hazardous and non-hazardous) and the treatment method applied (landfill, incineration, recycling, composting, etc) were considered.

When TIER 2 emission factors (data by country or grouped as Latin America) were available, they were used.

Minerva Foods' GHG inventories were audited and received the Gold Seal of the Brazilian GHG Protocol Program in 2020 and 2021. The 2022 inventory is also eligible to get a "Gold Seal" once again.

Business travel

Evaluation status

Relevant, calculated

Emissions in reporting year (metric tons CO₂e)

2408

Emissions calculation methodology

Spend-based method

Distance-based method

Percentage of emissions calculated using data obtained from suppliers or value chain partners

100

Please explain

GHG emissions related to business travel were calculated during the year and air travel is the most significant.

To calculate emissions related to air travel, data was collected from the responsible travel agency and emissions calculated by applying DEFRA (2021) emission factors.

To calculate emissions from taxi use, the average gasoline consumption per passenger vehicle is calculated and multiplied by the average Brazilian taxi fare per km (Minerva Foods Brazil)

Minerva Foods' GHG inventories were audited and received the Gold Seal of the Brazilian GHG Protocol Program in 2020 and 2021. The 2022 inventory is also eligible to get a "Gold Seal" once again.

Employee commuting

Evaluation status

Relevant, calculated

Emissions in reporting year (metric tons CO₂e)

3178

Emissions calculation methodology

Distance-based method

Percentage of emissions calculated using data obtained from suppliers or value chain partners

0

Please explain

GHG emissions related to employee commuting were calculated based on data provided by the Company's human resources area and are mainly related to transportation by chartered bus.

When TIER 2 emission factors were available (given by country or grouped as Latin America), they were used. Minerva Foods' GHG inventories were audited and received the Gold Seal of the Brazilian GHG Protocol Program in 2020 and 2021. The 2022 inventory is also eligible to get a "Gold Seal" once again.

Upstream leased assets

Evaluation status

Not relevant, explanation provided

Emissions in reporting year (metric tons CO₂e)

<Not Applicable>

Emissions calculation methodology

<Not Applicable>

Percentage of emissions calculated using data obtained from suppliers or value chain partners

<Not Applicable>

Please explain

In 2022, Minerva Foods hired a specialized consultancy to carry out a materiality study on scope 3 GHG emissions. The study concluded that GHG emissions from categories 2 (capital goods), 8 (upstream leased assets), 11 (processing of sold products) and 15 (investments) were not considered material, as together they represented only 0.57% of total 2020 GHG emissions calculated using Quants methodology (GHG Protocol Tool). Categories 13 (Downstream leased assets) and 14 (Franchises) are not applicable to Minerva Foods operations..

The emission from the leased Farms (CSAP Farms) were considered as Minerva Foods' own emissions (scopes 1 and 2) because all emission calculated was the company responsibility (own cattle, own people, etc.)

Downstream transportation and distribution

Evaluation status

Relevant, calculated

Emissions in reporting year (metric tons CO2e)

1102

Emissions calculation methodology

Distance-based method

Percentage of emissions calculated using data obtained from suppliers or value chain partners

0

Please explain

Approximately 90% of beef and processed foods and 75% of by-products transported for export are included in the category 4 - Transport and distribution (upstream).

In 2022, Minerva Foods hired a specialized consultancy to carry out a materiality study on scope 3 GHG emissions. The study concluded that GHG emissions from category 9 - Transport and distribution (downstream) represents 0.09% of total 2020 GHG emissions calculated using Quants methodology (GHG Protocol Tool).

However, for the Minerva Leather division, the category 9 - Transport and distribution (downstream) is relevant considering the movement of green leather to the tanneries that provide services. For the road distance, 'Google Maps' application was used and considered the longest distance from the Minerva Foods slaughterhouse to the tanneries.

When TIER 2 emission factors were available (given by country or grouped as Latin America), they were used. Minerva Foods' GHG inventories were audited and received the Gold Seal of the Brazilian GHG Protocol Program in 2020 and 2021. The 2022 inventory is also eligible to get a "Gold Seal" once again.

Processing of sold products

Evaluation status

Relevant, calculated

Emissions in reporting year (metric tons CO2e)

2237

Emissions calculation methodology

Average product method

Percentage of emissions calculated using data obtained from suppliers or value chain partners

0

Please explain

The processing of products sold was calculated based on the amount of bone meal, tallow and tripe sold in 2022. The Company used TIER 1 (IPCC data) to calculate GHG emissions related to the processing of these by-products by customers.

Minerva Foods' GHG inventories were audited and received the Gold Seal of the Brazilian GHG Protocol Program in 2020 and 2021. The 2022 inventory is also eligible to get a "Gold Seal" once again.

Use of sold products

Evaluation status

Not relevant, explanation provided

Emissions in reporting year (metric tons CO2e)

<Not Applicable>

Emissions calculation methodology

<Not Applicable>

Percentage of emissions calculated using data obtained from suppliers or value chain partners

<Not Applicable>

Please explain

In 2022, Minerva Foods hired a specialized consultancy to carry out a materiality study on scope 3 GHG emissions. The study concluded that GHG emissions from categories 2 (capital goods), 8 (upstream leased assets), 11 (processing of sold products) and 15 (investments) were not considered material, as together they represented only 0.57% of total 2020 GHG emissions calculated using Quants methodology (GHG Protocol Tool). Categories 13 (Downstream leased assets) and 14 (Franchises) are not applicable to Minerva Foods operations.

Minerva Foods' GHG inventories were audited and received the Gold Seal of the Brazilian GHG Protocol Program in 2020 and 2021. The 2022 inventory is also eligible to get a "Gold Seal" once again.

End of life treatment of sold products

Evaluation status

Relevant, calculated

Emissions in reporting year (metric tons CO2e)

55459

Emissions calculation methodology

Average product method

Percentage of emissions calculated using data obtained from suppliers or value chain partners

0

Please explain

GHG emissions from the end of life treatment of sold products are calculated considering the product packaging as waste. Being conservative, the Company considered that all product packaging was sent to landfill (emission factor greater than that used for recycling), with the exception of packaging included in the 'Eureciclo' program in Brazil.

The 'Eureciclo' program links cooperatives and collection and recycling operators to participating companies, generating income for these workers and reducing the environmental impact of waste.

In 2022, Minerva Foods once again received the 'Eureciclo' seal, which certifies practices that promote reverse logistics for product packaging. Minerva Foods is the first company in the meat sector to receive this seal in all its lines sold in Brazil.

When TIER 2 emission factors (data from Brazil or Latin America) are available, they are used. Minerva Foods' GHG inventories were audited and received the Gold Seal of the Brazilian GHG Protocol Program in 2020 and 2021. The 2022 inventory is also eligible to get a "Gold Seal" once again.

Downstream leased assets

Evaluation status

Not relevant, explanation provided

Emissions in reporting year (metric tons CO2e)

<Not Applicable>

Emissions calculation methodology

<Not Applicable>

Percentage of emissions calculated using data obtained from suppliers or value chain partners

<Not Applicable>

Please explain

Not applicable. Minerva Foods has no Downstream leased assets.

Franchises

Evaluation status

Not relevant, explanation provided

Emissions in reporting year (metric tons CO2e)

<Not Applicable>

Emissions calculation methodology

<Not Applicable>

Percentage of emissions calculated using data obtained from suppliers or value chain partners

<Not Applicable>

Please explain

Not applicable. Minerva Foods does not operate through franchises.

Investments

Evaluation status

Not relevant, explanation provided

Emissions in reporting year (metric tons CO2e)

<Not Applicable>

Emissions calculation methodology

<Not Applicable>

Percentage of emissions calculated using data obtained from suppliers or value chain partners

<Not Applicable>

Please explain

In 2022, Minerva Foods hired a specialized consultancy to carry out a materiality study on scope 3 GHG emissions. The study concluded that GHG emissions from categories 2 (capital goods), 8 (upstream leased assets), 11 (processing of sold products) and 15 (investments) were not considered material, as together they represented only 0.57% of total 2020 GHG emissions calculated using Quants methodology (GHG Protocol Tool). Categories 13 (Downstream leased assets) and 14 (Franchises) are not applicable to Minerva Foods operations.

Other (upstream)

Evaluation status

Not relevant, explanation provided

Emissions in reporting year (metric tons CO2e)

<Not Applicable>

Emissions calculation methodology

<Not Applicable>

Percentage of emissions calculated using data obtained from suppliers or value chain partners

<Not Applicable>

Please explain

Not applicable. All relevant emission were calculated and reported

Other (downstream)

Evaluation status

Not relevant, explanation provided

Emissions in reporting year (metric tons CO2e)

<Not Applicable>

Emissions calculation methodology

<Not Applicable>

Percentage of emissions calculated using data obtained from suppliers or value chain partners

<Not Applicable>

Please explain

Not applicable. All relevant emission were calculated and reported

C-AC6.8/C-FB6.8/C-PF6.8

(C-AC6.8/C-FB6.8/C-PF6.8) Is biogenic carbon pertaining to your direct operations relevant to your current CDP climate change disclosure?

Yes

C-AC6.8a/C-FB6.8a/C-PF6.8a

(C-AC6.8a/C-FB6.8a/C-PF6.8a) Account for biogenic carbon data pertaining to your direct operations and identify any exclusions.

CO2 emissions from land use management

Emissions (metric tons CO2)

Methodology

Please explain

N/A

CO2 removals from land use management

Emissions (metric tons CO2)

8444

Methodology

Region-specific emissions factors

Please explain

CO2 removals from land use management due to plant recomposition in Cerrado and Caatinga biomes in Brazil and Colombia.

During 2022, a total of 58,218 trees were planted, 58,068 in the Cerrado biome and 150 in the Caatinga biome, as follows: Brazil - Barretos planted 40 trees in the Cerrado biome, Minerva Foods Industrializados planted 56,856 trees in the Cerrado biome, and Janaúba planted 150 trees in the Caatinga biome; Colombia - Ciénega de Oro planted 1,163 trees in the Cerrado biome.

Emissions of biogenic CO2 were calculated according to regional bibliographic studies that defined the number of individuals per hectare (Cerrado: phytosociological study of an area of Cerrado in Brasília, Andrade, 2002; Caatinga: study of quantitative survey of woody plants in Pernambuco, Rodal, 2008) and carbon content values for the Cerrado and Caatinga biomes, as defined in the Brazilian Inventory of Anthropogenic Emissions by Sources and Removals by Sinks of Greenhouse Gases Not Controlled by the Montreal Protocol (Ministry of Science, Technology, Innovations and Communications, 2010).

Sequestration during land use change

Emissions (metric tons CO2)

Methodology

Please explain

N/A

CO2 emissions from biofuel combustion (land machinery)

Emissions (metric tons CO2)

Methodology

Please explain

N/A

CO2 emissions from biofuel combustion (processing/manufacturing machinery)

Emissions (metric tons CO2)

228113

Methodology

Default emissions factors

Please explain

Biogenic emissions generated by ethanol contained in fuels (diesel and gasoline) used in machinery (stationary combustion) and fleet (mobile combustion), in addition to the use of biomass, wood from renewable sources and beef tallow in industrial processes.

CO2 emissions from biofuel combustion (other)

Emissions (metric tons CO2)

8620

Methodology

Default emissions factors

Please explain

Biogenic emissions generated by ethanol contained in fuels (diesel and gasoline) used in transport and distribution activities (upstream and downstream), employee commuting, business trips and also by waste generated in the operation destined for incineration and re-refining.

C-AC6.9/C-FB6.9/C-PF6.9

(C-AC6.9/C-FB6.9/C-PF6.9) Do you collect or calculate greenhouse gas emissions for each commodity reported as significant to your business in C-AC0.7/FB0.7/PF0.7?

Agricultural commodities

Cattle products

Do you collect or calculate GHG emissions for this commodity?

Yes

Reporting emissions by

Total

Emissions (metric tons CO2e)

17119145

Denominator: unit of production

<Not Applicable>

Change from last reporting year

Higher

Please explain

Minerva Foods calculates its greenhouse gas from the enteric fermentation and the management of waste from animals acquired in Brazil (Scopes 1 and 3), based on studies carried out. The methodology accounts for the age of the cattle and the length of stay in each type of property (confinement, semi-confinement, pasture and confinement to pasture), according to the emission factors of the IV Brazilian Inventory of Anthropogenic Emissions and Gas Removal Greenhouse of the Ministry of Science, Technology, Innovations and Communications (2020).

The enteric fermentation and the management of waste from animals acquired in LATAM and Australia are calculated based on IPCC Emission Factor (using only the age of the animal).

The increase in emissions refers to the increase of 4.28% in the number of animals slaughtered compared to the previous year, and the new business units included in the 2022 inventory (enteric fermentation and waste management of animals during the time they are in the feedlots farms of Companhia Sul-Americana de Pecuária - CSAP which represents 12% of total scope 1 emissions from the cattle in 2022).

Explain why you do not calculate GHG emission for this commodity and your plans to do so in the future

<Not Applicable>

C6.10

(C6.10) Describe your gross global combined Scope 1 and 2 emissions for the reporting year in metric tons CO2e per unit currency total revenue and provide any additional intensity metrics that are appropriate to your business operations.

Intensity figure

0.000010939

Metric numerator (Gross global combined Scope 1 and 2 emissions, metric tons CO2e)

339109.44

Metric denominator

unit total revenue

Metric denominator: Unit total

3100000000

Scope 2 figure used

Market-based

% change from previous year

0.96

Direction of change

Increased

Reason(s) for change

Acquisitions

Change in boundary

Please explain

The increase in emissions in 2022 can be explained by accounting for emissions from operations not covered in previous years' inventories: Brazil - seven CSAP feedlot farms, an office, 'Meu Minerva' e-commerce, Minerva Ingredients and Minerva Energia; USA - outsourced distribution center; Australia - two business units acquired at the end of 2021.

Intensity figure

0.175

Metric numerator (Gross global combined Scope 1 and 2 emissions, metric tons CO2e)

291813

Metric denominator

metric ton of product

Metric denominator: Unit total

1658137

Scope 2 figure used

Market-based

% change from previous year

0.46

Direction of change

Increased

Reason(s) for change

Change in output

Please explain

For the calculation of emissions intensity, only confinement farm operations (CSAP) were excluded, which represent 13.9% of the Company's total Scope 1 and 2 emissions.

To calculate the TPA (Tons of Finished Product), industrial operations were considered (which represent 85.9% of the Company's Scope 1 and 2 emissions), excluding Distribution Centers and the divisions: CSAP (containment farms), Minerva Ingredients, E-Commerce 'Meu Minerva', Minerva Foods Shop, Minerva Biodiesel, Minerva Leather, Minerva Casings and Minerva Energia (which represent 14.1% of the Company's Scope 1 and 2 emissions).

At the industrial units in Brazil, in 2022, the consumption of water in side businesses was added to the total amount of wastewater treatment, which reflects the increase in emissions related to effluent treatment. Emissions from this source represent 69% of Minerva Foods' total Scope 1 emissions.

C7. Emissions breakdowns

C7.1

(C7.1) Does your organization break down its Scope 1 emissions by greenhouse gas type?

Yes

C7.1a

(C7.1a) Break down your total gross global Scope 1 emissions by greenhouse gas type and provide the source of each used greenhouse warming potential (GWP).

Greenhouse gas	Scope 1 emissions (metric tons of CO2e)	GWP Reference
CO2	56815	IPCC Fifth Assessment Report (AR5 – 100 year)
CH4	267950	IPCC Fifth Assessment Report (AR5 – 100 year)
N2O	13427	IPCC Fifth Assessment Report (AR5 – 100 year)
HFCs	917	IPCC Fifth Assessment Report (AR5 – 100 year)

C7.2

(C7.2) Break down your total gross global Scope 1 emissions by country/area/region.

Country/area/region	Scope 1 emissions (metric tons CO2e)
Brazil	165545
Argentina	81529
Colombia	39945
Paraguay	13943
Uruguay	38107
Australia	40

C7.3

(C7.3) Indicate which gross global Scope 1 emissions breakdowns you are able to provide.

- By business division
- By facility
- By activity

C7.3a

(C7.3a) Break down your total gross global Scope 1 emissions by business division.

Business division	Scope 1 emissions (metric ton CO2e)
Distribution center	15
Processed	1181
Food industry	290183
Administrative unit	343
Minerva Foods Business	91
Minerva Foods Farms	47296

C7.3b

(C7.3b) Break down your total gross global Scope 1 emissions by business facility.

Facility	Scope 1 emissions (metric tons CO2e)	Latitude	Longitude
Araraquara (Distribution Center) / Brazil	15	-21.7447	-48.1336
Minerva Foods Industrializados (Processed) / Brazil	1060	-20.552355	-57.57606
Pilar (Processed) / Argentina	120	-34.423183	-58.967902
Araguaína (Food Industry) / Brazil	10668	-7.280661	-48.2679
Asunción - plant 2 (Food Industry) / Paraguay	298	-25.259437	-57.591602
Asunción - plant 8 (Food Industry) / Paraguay	544	-25.258385	-57.592624
Barretos (Food Industry) / Brazil	11466	-20.554044	-48.554836
Belén (Food Industry) / Paraguay	11286	-23.475236	-57.264863
Bucaramanga (Food Industry) / Colombia	3959	7.204532	-73.130783
Campina Verde (Food Industry) / Brazil	0	-19.555266	-49.466192
Canelones (Food Industry) / Uruguay	8648	-34.537857	-56.281443
Carrasco (Food Industry) / Uruguay	11024	-34.86451	-56.05885
Ciénaga de Oro (Food Industry) / Colombia	35986	8.87009	-75.657403
Esperance (Food Industry) / Australia	34	-33.773627	121.86529
Goianésia (Food Industry) / Brazil	0	-15.32814	-49.079474
Janaúba (Food Industry) / Brazil	17011	-15.775422	-43.316867
José Bonifácio (Food Industry) / Brazil	7750	-21.04447	-49.684071
Melo (Food Industry) / Uruguay	18434	-32.418524	-54.121431
Mirassol d'Oeste (Food Industry) / Brazil	3527	-15.696818	-58.122643
Palmeiras de Goiás (Food Industry) / Brazil	47854	-16.849839	-49.831892
Paranatinga (Food Industry) / Brazil	3274	-14.463708	-54.038341
Pontevedra (Food Industry) / Argentina	19947	-34.748316	-58.683111
Rolim de Moura (Food Industry) / Brazil	15190	-11.730772	-61.641595
Rosario (Food Industry) / Argentina	57605	-33.005078	-60.614221
San Antonio (Food Industry) / Paraguay	1816	-25.42259	-57.566162
Tammin (Food Industry) / Australia	7	-31.63971	117.50981
Venado Tuerto (Food Industry) / Argentina	3855	33.71714	61.98555
Barretos Corporate Office (Administrative unit) / Brazil	239	-20.5533	-48.5528
São Paulo Corporate Office (Administrative unit) / Brazil	0	23.351686	46.404939
São Paulo - Villa Lobos Corporate Office (Administrative unit) / Brazil	104	-23.551402	-46.722276
Minerva Biodiesel (Minerva Foods Business) / Brazil	32	-16.82175	-49.867613
Minerva Casings (Minerva Foods Business) / Brasil	45	-21.045816	-49.705555
Minerva Foods Shop (Minerva Foods Business) / Brazil	11	20.33646	48.244511
Minerva Leather (Minerva Foods Business) / Brazil	3	20.311346	48.335386
CSAP – Altinópolis (Minerva Foods Farms) / Brazil	7312	-20.990169	-47.404681
CSAP – Araguaína (Minerva Foods Farms) / Brazil	6215	-7.234212	-48.378149
CSAP – Buritama (Minerva Foods Farms) / Brazil	11010	-21.102662	-50.241027
CSAP - Morada da Lua (Minerva Foods Farms) / Brazil	11252	-1.84816	-48.858506
CSAP - Rolim de Moura (Minerva Foods Farms) / Brazil	7315	-11.745909	-61.635084
CSAP - Sela da Prata (Minerva Foods Farms) / Brazil	2986	-1.713032	-48.69082
CSAP - Vale do Paciência (Minerva Foods Farms) / Brazil	1207	-2.000862	-48.979812

C7.3c

(C7.3c) Break down your total gross global Scope 1 emissions by business activity.

Activity	Scope 1 emissions (metric tons CO2e)
Agricultural	42821
Stationary combustion	57108
Mobile Combustion	3322
Fugitives	922
Solid waste and effluents	234936

C-AC7.4/C-FB7.4/C-PF7.4

(C-AC7.4/C-FB7.4/C-PF7.4) Do you include emissions pertaining to your business activity(ies) in your direct operations as part of your global gross Scope 1 figure?

Yes

C-AC7.4a/C-FB7.4a/C-PF7.4a

(C-AC7.4a/C-FB7.4a/C-PF7.4a) Select the form(s) in which you are reporting your agricultural/forestry emissions.

Emissions disaggregated by category (advised by the GHG Protocol)

C-AC7.4b/C-FB7.4b/C-PF7.4b

(C-AC7.4b/C-FB7.4b/C-PF7.4b) Report the Scope 1 emissions pertaining to your business activity(ies) and explain any exclusions. If applicable, disaggregate your agricultural/forestry by GHG emissions category.

Activity

Agriculture/Forestry

Emissions category

Non-mechanical

Emissions (metric tons CO2e)

54131

Methodology

Region-specific emissions factors

Please explain

Emission from nitrogen fertilizers (1,740 tCO2e), enteric fermentation and waste management from animals (45,908 tCO2e) and composting (6,482 tCO2e).

Activity

Processing/Manufacturing

Emissions category

Mechanical

Emissions (metric tons CO2e)

284978

Methodology

Default emissions factor

Please explain

Scope 1 total GHG emissions (339,109 tCO2e) minus Land use emissions (54,131 tCO2e).

C7.5

(C7.5) Break down your total gross global Scope 2 emissions by country/area/region.

Country/area/region	Scope 2, location-based (metric tons CO2e)	Scope 2, market-based (metric tons CO2e)
Brazil	8509	0
Argentina	26091	0
Colombia	3547	0
Paraguay	0	0
Uruguay	1802	0
Australia	1012	0

C7.6

(C7.6) Indicate which gross global Scope 2 emissions breakdowns you are able to provide.

By business division

By facility

By activity

C7.6a

(C7.6a) Break down your total gross global Scope 2 emissions by business division.

Business division	Scope 2, location-based (metric tons CO2e)	Scope 2, market-based (metric tons CO2e)
Distribution center	173	0
Food Industry	37416	0
Administrative unit	3	0
Minerva Foods Business	30	0
Processed	3308	0
Minerva Foods Farms	31	0

C7.6b

(C7.6b) Break down your total gross global Scope 2 emissions by business facility.

Facility	Scope 2, location-based (metric tons CO2e)	Scope 2, market-based (metric tons CO2e)
Araraquara (Distribution Center) / Brazil	173	0
Minerva Foods Industrializados (Processed) / Brazil	779	0
Pilar (Processed) / Argentina	2529	0
Araguaína (Food Industry) / Brazil	727	0
Asunción - plant 2 (Food Industry) / Paraguay	0	0
Asunción - plant 8 (Food Industry) / Paraguay	0	0
Barretos (Food Industry) / Brazil	1166	0
Belén (Food Industry) / Paraguay	0	0
Bucaramanga (Food Industry) / Colombia	1571	0
Campina Verde (Food Industry) / Brazil	4	0
Canelones (Food Industry) / Uruguay	643	0
Carrasco (Food Industry) / Uruguay	536	0
Ciénaga de Oro (Food Industry) / Colombia	1977	0
Esperance (Food Industry) / Australia	656	0
Goianésia (Food Industry) / Brazil	3	0
Janaúba (Food Industry) / Brazil	532	0
José Bonifácio (Food Industry) / Brazil	795	0
Melo (Food Industry) / Uruguay	623	0
Mirassol d'Oeste (Food Industry) / Brazil	749	0
Palmeiras de Goiás (Food Industry) / Brazil	1775	0
Paranatinga (Food Industry) / Brazil	671	0
Pontevedra (Food Industry) / Argentina	2261	0
Rolim de Moura (Food Industry) / Brazil	1080	0
Rosario (Food Industry) / Argentina	19571	0
San Antonio (Food Industry) / Paraguay	0	0
Tammin (Food Industry) / Australia	356	0
Venado Tuerto (Food Industry) / Argentina	1729	0
Barretos Corporate Office (Administrative unit) / Brazil	0	0
São Paulo Corporate Office (Administrative unit) / Brazil	1	0
São Paulo - Villa Lobos Corporate Office (Administrative unit) / Brazil	1	0
Minerva Biodiesel (Minerva Foods Business) / Brazil	0	0
Minerva Casings (Minerva Foods Business) / Brasil	0	0
Minerva Foods Shop (Minerva Foods Business) / Brazil	19	0
Minerva Leather (Minerva Foods Business) / Brazil	2	0
CSAP – Altinópolis (Minerva Foods Farms) / Brazil	4	0
CSAP – Araguaína (Minerva Foods Farms) / Brazil	8	0
CSAP – Buritama (Minerva Foods Farms) / Brazil	7	0
CSAP - Morada da Lua (Minerva Foods Farms) / Brazil	9	0
CSAP - Rolim de Moura (Minerva Foods Farms) / Brazil	1	0
CSAP - Sela da Prata (Minerva Foods Farms) / Brazil	2	0
CSAP - Vale do Paciência (Minerva Foods Farms) / Brazil	1	0

C7.6c

(C7.6c) Break down your total gross global Scope 2 emissions by business activity.

Activity	Scope 2, location-based (metric tons CO2e)	Scope 2, market-based (metric tons CO2e)
Acquisition of electricity	40961	0

C7.7

(C7.7) Is your organization able to break down your emissions data for any of the subsidiaries included in your CDP response?

Yes

C7.7a

(C7.7a) Break down your gross Scope 1 and Scope 2 emissions by subsidiary.

Subsidiary name
Athena Foods S.A.

Primary activity

Animal processing

Select the unique identifier(s) you are able to provide for this subsidiary

No unique identifier

ISIN code – bond

<Not Applicable>

ISIN code – equity

<Not Applicable>

CUSIP number

<Not Applicable>

Ticker symbol

<Not Applicable>

SEDOL code

<Not Applicable>

LEI number

<Not Applicable>

Other unique identifier

<Not Applicable>

Scope 1 emissions (metric tons CO2e)

173523.56

Scope 2, location-based emissions (metric tons CO2e)

31439.81

Scope 2, market-based emissions (metric tons CO2e)

0

Comment

Emission from Scopes 1 and 2 of the LATAM industrial units

Subsidiary name

Minerva Dawn Farms Ind. Com. Proteínas S.A

Primary activity

Animal processing

Select the unique identifier(s) you are able to provide for this subsidiary

No unique identifier

ISIN code – bond

<Not Applicable>

ISIN code – equity

<Not Applicable>

CUSIP number

<Not Applicable>

Ticker symbol

<Not Applicable>

SEDOL code

<Not Applicable>

LEI number

<Not Applicable>

Other unique identifier

<Not Applicable>

Scope 1 emissions (metric tons CO2e)

1060.42

Scope 2, location-based emissions (metric tons CO2e)

778.92

Scope 2, market-based emissions (metric tons CO2e)

0

Comment

Emission from Scopes 1 and 2 of the food processing in Brazil

Subsidiary name

Companhia Sul Americana de Pecuária S.A

Primary activity

Cattle farming

Select the unique identifier(s) you are able to provide for this subsidiary

No unique identifier

ISIN code – bond

<Not Applicable>

ISIN code – equity

<Not Applicable>

CUSIP number

<Not Applicable>

Ticker symbol

<Not Applicable>

SEDOL code

<Not Applicable>

LEI number

<Not Applicable>

Other unique identifier

<Not Applicable>

Scope 1 emissions (metric tons CO2e)

47296.13

Scope 2, location-based emissions (metric tons CO2e)

31.49

Scope 2, market-based emissions (metric tons CO2e)

0

Comment

Emission from Scopes 1 and 2 of the seven feedlot farms

Subsidiary name

Minerva Foods Australia Holdings Pty

Primary activity

Animal processing

Select the unique identifier(s) you are able to provide for this subsidiary

No unique identifier

ISIN code – bond

<Not Applicable>

ISIN code – equity

<Not Applicable>

CUSIP number

<Not Applicable>

Ticker symbol

<Not Applicable>

SEDOL code

<Not Applicable>

LEI number

<Not Applicable>

Other unique identifier

<Not Applicable>

Scope 1 emissions (metric tons CO2e)

40.47

Scope 2, location-based emissions (metric tons CO2e)

1012.27

Scope 2, market-based emissions (metric tons CO2e)

0

Comment

Emission from Scopes 1 and 2 of the two industrial units in Australia

C7.9

(C7.9) How do your gross global emissions (Scope 1 and 2 combined) for the reporting year compare to those of the previous reporting year?

Increased

C7.9a

(C7.9a) Identify the reasons for any change in your gross global emissions (Scope 1 and 2 combined), and for each of them specify how your emissions compare to the previous year.

	Change in emissions (metric tons CO2e)	Direction of change in emissions	Emissions value (percentage)	Please explain calculation
Change in renewable energy consumption	50101.05	Decreased	18	The gross global biogenic emissions (Scope 1 + 2) of company for this reporting year are 228,112.96 metric tons of CO2 biogenic. Its gross global emissions for the previous reporting year were 278,213.01 metric tons of CO2 biogenic. This means that the total variation in emissions is -50,100.05 metric tons of CO2 biogenic, a decrease of 18% according to the following formula: $(-50,100.05/278,213.01) * 100 = -18\%$. The result can be attributed to the reduction in biomass consumption in boilers at industrial operations in Brazil, Paraguay and Uruguay and ethanol as fuel for transport vehicles.
Other emissions reduction activities	0	No change	0	N/A
Divestment	0	No change	0	N/A
Acquisitions	40.47	Increased	0.014	The gross emissions of the two new business units in Australia (Scope 1 + 2) for this reporting year are 40.47 metric tons of CO2e. Gross global emissions for the previous year were 283,144.86 metric tons of CO2e. This means that the total variation in emissions is 0.014%, an increase according to the following formula: $(40.47/283144.86) * 100 = 0.014\%$. The 0.014% variation in Scope 1+2 GHG emissions is attributed to the acquisition of two sheep slaughter units in Australia and their inclusion in the GHG inventory.
Mergers	0	No change	0	N/A
Change in output	8524	Increased	3.01	Due to the 4.28% increase in the number of animals slaughtered compared to the previous year, excluding the new business units included in the 2022 inventory, scope 1 and 2 emissions increased by 3.01%. The slaughter of animals in 2022 reached 3,749,363 head of cattle. Animal slaughter in 2021 reached 3,595,433 head of cattle. This means a variation of 153,930 in slaughter, which is equivalent to an increase of 4.28%, according to the following formula: $(153,930/3,595,433) * 100 = 4.28\%$. The Company's gross emissions (Scope 1 + 2) for this reference year are 291,169 metric tons of CO2e. Its gross global emissions for the previous year were 283,145 metric tons of CO2e. This means that the total change in emissions is 8,524 metric tons of CO2e, equivalent to an increase of 3.01%, according to the following formula: $(8,524/283,145) * 100 = 3.01\%$.
Change in methodology	0	No change	0	N/A
Change in boundary	47400	Increased	16.74	The gross emissions from 8 operation units in Brazil (Scope 1 + 2) for this reporting year are 47399.67 metric tons of CO2e. Its gross emissions for the previous reporting year were 283144.86 metric tons of CO2e. This means that the total change in emissions is 16.74% increase, according to the formula in the explanation of terms, above: $(47399.67 / 283144.86) * 100 = 16.74\%$. The increase of 16.74% of GHG emission form Scope 1+2 can be explained by accounting for emissions from operations not covered in previous years' inventories: Brazil - seven CSAP feedlot farms, an office, 'Meu Minerva' e-commerce, Minerva Ingredients and Minerva Energia; USA - outsourced distribution center;
Change in physical operating conditions	0	No change	0	N/A
Unidentified	0	No change	0	N/A
Other	0	No change	0	N/A

C7.9b

(C7.9b) Are your emissions performance calculations in C7.9 and C7.9a based on a location-based Scope 2 emissions figure or a market-based Scope 2 emissions figure?

Market-based

C8. Energy

C8.1

(C8.1) What percentage of your total operational spend in the reporting year was on energy?

More than 0% but less than or equal to 5%

C8.2

(C8.2) Select which energy-related activities your organization has undertaken.

	Indicate whether your organization undertook this energy-related activity in the reporting year
Consumption of fuel (excluding feedstocks)	Yes
Consumption of purchased or acquired electricity	Yes
Consumption of purchased or acquired heat	No
Consumption of purchased or acquired steam	No
Consumption of purchased or acquired cooling	No
Generation of electricity, heat, steam, or cooling	Yes

C8.2a

(C8.2a) Report your organization's energy consumption totals (excluding feedstocks) in MWh.

	Heating value	MWh from renewable sources	MWh from non-renewable sources	Total (renewable and non-renewable) MWh
Consumption of fuel (excluding feedstock)	LHV (lower heating value)	571449	257645	829094
Consumption of purchased or acquired electricity	<Not Applicable>	418409	0	418409
Consumption of purchased or acquired heat	<Not Applicable>	<Not Applicable>	<Not Applicable>	<Not Applicable>
Consumption of purchased or acquired steam	<Not Applicable>	<Not Applicable>	<Not Applicable>	<Not Applicable>
Consumption of purchased or acquired cooling	<Not Applicable>	<Not Applicable>	<Not Applicable>	<Not Applicable>
Consumption of self-generated non-fuel renewable energy	<Not Applicable>	452	<Not Applicable>	452
Total energy consumption	<Not Applicable>	990310	257645	1247955

C8.2b

(C8.2b) Select the applications of your organization's consumption of fuel.

	Indicate whether your organization undertakes this fuel application
Consumption of fuel for the generation of electricity	Yes
Consumption of fuel for the generation of heat	No
Consumption of fuel for the generation of steam	Yes
Consumption of fuel for the generation of cooling	No
Consumption of fuel for co-generation or tri-generation	No

C8.2c

(C8.2c) State how much fuel in MWh your organization has consumed (excluding feedstocks) by fuel type.

Sustainable biomass

Heating value

LHV

Total fuel MWh consumed by the organization

0

MWh fuel consumed for self-generation of electricity

0

MWh fuel consumed for self-generation of heat

0

MWh fuel consumed for self-generation of steam

0

MWh fuel consumed for self-generation of cooling

<Not Applicable>

MWh fuel consumed for self- cogeneration or self-trigeneration

<Not Applicable>

Comment

N/A

Other biomass

Heating value

LHV

Total fuel MWh consumed by the organization

570764

MWh fuel consumed for self-generation of electricity

0

MWh fuel consumed for self-generation of heat

0

MWh fuel consumed for self-generation of steam

570764

MWh fuel consumed for self-generation of cooling

<Not Applicable>

MWh fuel consumed for self- cogeneration or self-trigeneration

<Not Applicable>

Comment

Tallow and wood – Generation of steam for boilers

Other renewable fuels (e.g. renewable hydrogen)

Heating value

LHV

Total fuel MWh consumed by the organization

685

MWh fuel consumed for self-generation of electricity

0

MWh fuel consumed for self-generation of heat

685

MWh fuel consumed for self-generation of steam

0

MWh fuel consumed for self-generation of cooling

<Not Applicable>

MWh fuel consumed for self- cogeneration or self-trigeneration

<Not Applicable>

Comment

Ethanol – Car fleet

Coal

Heating value

LHV

Total fuel MWh consumed by the organization

25255

MWh fuel consumed for self-generation of electricity

0

MWh fuel consumed for self-generation of heat

0

MWh fuel consumed for self-generation of steam

25255

MWh fuel consumed for self-generation of cooling

<Not Applicable>

MWh fuel consumed for self- cogeneration or self-trigeneration

<Not Applicable>

Comment

Coal – Generation of steam for boilers

Oil

Heating value

LHV

Total fuel MWh consumed by the organization

13599

MWh fuel consumed for self-generation of electricity

1420

MWh fuel consumed for self-generation of heat

12059

MWh fuel consumed for self-generation of steam

120

MWh fuel consumed for self-generation of cooling

<Not Applicable>

MWh fuel consumed for self- cogeneration or self-trigeneration

<Not Applicable>

Comment

Diesel and Gasoline – stationary combustion, transport and generation of electricity; Jet fuel – air transport

Gas

Heating value

LHV

Total fuel MWh consumed by the organization

217190

MWh fuel consumed for self-generation of electricity

0

MWh fuel consumed for self-generation of heat

6121

MWh fuel consumed for self-generation of steam

211069

MWh fuel consumed for self-generation of cooling

<Not Applicable>

MWh fuel consumed for self- cogeneration or self-trigeneration

<Not Applicable>

Comment

LPG and Natural Gas - Generation of steam for boilers

Other non-renewable fuels (e.g. non-renewable hydrogen)

Heating value

Unable to confirm heating value

Total fuel MWh consumed by the organization

1601

MWh fuel consumed for self-generation of electricity

0

MWh fuel consumed for self-generation of heat

1168

MWh fuel consumed for self-generation of steam

433

MWh fuel consumed for self-generation of cooling

<Not Applicable>

MWh fuel consumed for self- cogeneration or self-trigeneration

<Not Applicable>

Comment

Acetylene and Propane – Welding and other uses

Total fuel**Heating value**

LHV

Total fuel MWh consumed by the organization

829094

MWh fuel consumed for self-generation of electricity

1420

MWh fuel consumed for self-generation of heat

20033

MWh fuel consumed for self-generation of steam

807641

MWh fuel consumed for self-generation of cooling

<Not Applicable>

MWh fuel consumed for self- cogeneration or self-trigeneration

<Not Applicable>

Comment

N/A

C8.2d**(C8.2d) Provide details on the electricity, heat, steam, and cooling your organization has generated and consumed in the reporting year.**

	Total Gross generation (MWh)	Generation that is consumed by the organization (MWh)	Gross generation from renewable sources (MWh)	Generation from renewable sources that is consumed by the organization (MWh)
Electricity	1872	1872	452	452
Heat	0	0	0	0
Steam	807641	807641	570764	570764
Cooling	0	0	0	0

C8.2e**(C8.2e) Provide details on the electricity, heat, steam, and/or cooling amounts that were accounted for at a zero or near-zero emission factor in the market-based Scope 2 figure reported in C6.3.****Country/area of low-carbon energy consumption**

Brazil

Sourcing method

Default delivered electricity from the grid (e.g. standard product offering by an energy supplier) from a grid that is 95% or more low-carbon and where there is no mechanism for specifically allocating low-carbon electricity

Energy carrier

Electricity

Low-carbon technology type

Renewable energy mix, please specify (Mercado Livre, solar, wind, etc.)

Low-carbon energy consumed via selected sourcing method in the reporting year (MWh)

198022

Tracking instrument used

Contract

Country/area of origin (generation) of the low-carbon energy or energy attribute

Brazil

Are you able to report the commissioning or re-powering year of the energy generation facility?

Yes

Commissioning year of the energy generation facility (e.g. date of first commercial operation or repowering)

2022

Comment

Business units included at the Brazilian energy free market: Araraquara (Distribution Center), Minerva Foods Industrializados (Processed), Araguaína (Food Industry), Barretos (Food Industry), Barretos Corporate Office (Administrative unit), Campina Verde (Food Industry), Goianésia (Food Industry), Janaúba (Food Industry), José Bonifácio (Food Industry), Mirassol d'Oeste (Food Industry), Palmeiras de Goiás (Food Industry), Paranatinga (Food Industry) and Rolim de Moura (Food Industry), Minerva Biodiesel (Minerva Foods Business) and Minerva Casings (Minerva Foods Business). 198,039 I-RECs were also purchased.

Country/area of low-carbon energy consumption

Paraguay

Sourcing method

Default delivered electricity from the grid (e.g. standard product offering by an energy supplier) from a grid that is 95% or more low-carbon and where there is no mechanism for specifically allocating low-carbon electricity

Energy carrier

Electricity

Low-carbon technology type

Large hydropower (>25 MW)

Low-carbon energy consumed via selected sourcing method in the reporting year (MWh)

64601

Tracking instrument used

Other, please specify (Government's Website)

Country/area of origin (generation) of the low-carbon energy or energy attribute

Paraguay

Are you able to report the commissioning or re-powering year of the energy generation facility?

Yes

Commissioning year of the energy generation facility (e.g. date of first commercial operation or repowering)

2022

Comment

100% of the energy consumed in the business units in Paraguay comes from low-emission generators (large hydroelectric plants: Itaipu, Acary and Yacyreta). Asunción - plant 2 (Food Industry), Asunción - plant 8 (Food Industry), Belén (Food Industry) and San Antonio (Food Industry)

Country/area of low-carbon energy consumption

Argentina

Sourcing method

Default delivered electricity from the grid (e.g. standard product offering by an energy supplier), supported by energy attribute certificates

Energy carrier

Electricity

Low-carbon technology type

Large hydropower (>25 MW)

Low-carbon energy consumed via selected sourcing method in the reporting year (MWh)

84985

Tracking instrument used

I-REC

Country/area of origin (generation) of the low-carbon energy or energy attribute

Brazil

Are you able to report the commissioning or re-powering year of the energy generation facility?

Yes

Commissioning year of the energy generation facility (e.g. date of first commercial operation or repowering)

2022

Comment

84,987 I-RECs were purchased for all business units in Argentina: Pilar (Processed), Ponedvedra (Food Industry), Rosario (Food Industry) and Venado Tuerto (Food Industry)

Country/area of low-carbon energy consumption

Brazil

Sourcing method

Default delivered electricity from the grid (e.g. standard product offering by an energy supplier), supported by energy attribute certificates

Energy carrier

Electricity

Low-carbon technology type

Wind

Low-carbon energy consumed via selected sourcing method in the reporting year (MWh)

1269

Tracking instrument used

I-REC

Country/area of origin (generation) of the low-carbon energy or energy attribute

Brazil

Are you able to report the commissioning or re-powering year of the energy generation facility?

Yes

Commissioning year of the energy generation facility (e.g. date of first commercial operation or repowering)

2022

Comment

1274 I-RECs were purchased for all business units not included in the Brazilian free energy market: Minerva Foods Shop (Minerva Foods Business), São Paulo Corporate Office (Administrative unit), São Paulo - Villa Lobos Corporate Office (Administrative unit), Minerva Leather (Minerva Foods Business), CSAP – Altinópolis (Minerva Foods Farms), CSAP – Araguaína (Minerva Foods Farms), CSAP – Buritama (Minerva Foods Farms), CSAP – Morada da Lua (Minerva Foods Farms), CSAP – Rolim de Moura (Minerva Foods Farms), CSAP – Sela da Prata (Minerva Foods Farms) and CSAP – Vale do Paciência (Minerva Foods Farms).

Country/area of low-carbon energy consumption

Colombia

Sourcing method

Default delivered electricity from the grid (e.g. standard product offering by an energy supplier), supported by energy attribute certificates

Energy carrier

Electricity

Low-carbon technology type

Large hydropower (>25 MW)

Low-carbon energy consumed via selected sourcing method in the reporting year (MWh)

28154

Tracking instrument used

I-REC

Country/area of origin (generation) of the low-carbon energy or energy attribute

Brazil

Are you able to report the commissioning or re-powering year of the energy generation facility?

Yes

Commissioning year of the energy generation facility (e.g. date of first commercial operation or repowering)

2022

Comment

28157 I-RECs were purchased for all business units in Colombia: Bucaramanga (Food Industry) and Ciénaga de Oro (Food Industry)

Country/area of low-carbon energy consumption

Uruguay

Sourcing method

Default delivered electricity from the grid (e.g. standard product offering by an energy supplier), supported by energy attribute certificates

Energy carrier

Electricity

Low-carbon technology type

Large hydropower (>25 MW)

Low-carbon energy consumed via selected sourcing method in the reporting year (MWh)

40046

Tracking instrument used

I-REC

Country/area of origin (generation) of the low-carbon energy or energy attribute

Brazil

Are you able to report the commissioning or re-powering year of the energy generation facility?

Yes

Commissioning year of the energy generation facility (e.g. date of first commercial operation or repowering)

2022

Comment

40,047 I-RECs were purchased for all business units in Uruguay: Canelones (Food Industry), Carrasco (Food Industry) and Melo (Food Industry)

Country/area of low-carbon energy consumption

Australia

Sourcing method

Default delivered electricity from the grid (e.g. standard product offering by an energy supplier), supported by energy attribute certificates

Energy carrier

Electricity

Low-carbon technology type

Large hydropower (>25 MW)

Low-carbon energy consumed via selected sourcing method in the reporting year (MWh)

1332

Tracking instrument used

I-REC

Country/area of origin (generation) of the low-carbon energy or energy attribute

Brazil

Are you able to report the commissioning or re-powering year of the energy generation facility?

Yes

Commissioning year of the energy generation facility (e.g. date of first commercial operation or repowering)

2022

Comment

4563 I-RECs were purchased for all business units in Australia: Esperance (Food Industry), Tammin (Food Industry), Colac (Food Industry) and Sunshine (Food Industry). Esperance and Tammin business units have consumed 1,332 MWh and for them the Company purchased 1,407 I-RECs. Despite the fact that the Colac and Sunshine

C8.2g

(C8.2g) Provide a breakdown by country/area of your non-fuel energy consumption in the reporting year.

Country/area

Brazil

Consumption of purchased electricity (MWh)

199291

Consumption of self-generated electricity (MWh)

0

Is this electricity consumption excluded from your RE100 commitment?

<Not Applicable>

Consumption of purchased heat, steam, and cooling (MWh)

0

Consumption of self-generated heat, steam, and cooling (MWh)

0

Total non-fuel energy consumption (MWh) [Auto-calculated]

Country/area

Argentina

Consumption of purchased electricity (MWh)

84985

Consumption of self-generated electricity (MWh)

0

Is this electricity consumption excluded from your RE100 commitment?

<Not Applicable>

Consumption of purchased heat, steam, and cooling (MWh)

0

Consumption of self-generated heat, steam, and cooling (MWh)

0

Total non-fuel energy consumption (MWh) [Auto-calculated]

Country/area

Colombia

Consumption of purchased electricity (MWh)

28154

Consumption of self-generated electricity (MWh)

452

Is this electricity consumption excluded from your RE100 commitment?

<Not Applicable>

Consumption of purchased heat, steam, and cooling (MWh)

0

Consumption of self-generated heat, steam, and cooling (MWh)

0

Total non-fuel energy consumption (MWh) [Auto-calculated]

Country/area

Paraguay

Consumption of purchased electricity (MWh)

64601

Consumption of self-generated electricity (MWh)

0

Is this electricity consumption excluded from your RE100 commitment?

<Not Applicable>

Consumption of purchased heat, steam, and cooling (MWh)

0

Consumption of self-generated heat, steam, and cooling (MWh)

0

Total non-fuel energy consumption (MWh) [Auto-calculated]

Country/area

Uruguay

Consumption of purchased electricity (MWh)

40046

Consumption of self-generated electricity (MWh)

0

Is this electricity consumption excluded from your RE100 commitment?

<Not Applicable>

Consumption of purchased heat, steam, and cooling (MWh)

0

Consumption of self-generated heat, steam, and cooling (MWh)

0

Total non-fuel energy consumption (MWh) [Auto-calculated]**Country/area**

Australia

Consumption of purchased electricity (MWh)

1332

Consumption of self-generated electricity (MWh)

0

Is this electricity consumption excluded from your RE100 commitment?

<Not Applicable>

Consumption of purchased heat, steam, and cooling (MWh)

0

Consumption of self-generated heat, steam, and cooling (MWh)

0

Total non-fuel energy consumption (MWh) [Auto-calculated]**C9. Additional metrics****C9.1****(C9.1) Provide any additional climate-related metrics relevant to your business.****Description**

Energy usage

Metric value

0.25

Metric numerator

MWh

Metric denominator (intensity metric only)

1,658,138 Ton of finished product

% change from previous year

5.29

Direction of change

Increased

Please explain

In 2021, the intensity of energy consumption was 0.2399 and in 2022 was 0,2526.

Since the Energy Efficiency Working Group was created, a weekly meeting has taken place. At these meetings every business unit is analyzed and discussed about the energy intensity KPI and ways to improve it.

C10. Verification**C10.1**

(C10.1) Indicate the verification/assurance status that applies to your reported emissions.

	Verification/assurance status
Scope 1	Third-party verification or assurance process in place
Scope 2 (location-based or market-based)	Third-party verification or assurance process in place
Scope 3	Third-party verification or assurance process in place

C10.1a

(C10.1a) Provide further details of the verification/assurance undertaken for your Scope 1 emissions, and attach the relevant statements.

Verification or assurance cycle in place

Annual process

Status in the current reporting year

Complete

Type of verification or assurance

Reasonable assurance

Attach the statement

BR23.00000090_ING_REV 2.pdf

Page/ section reference

Pages 3 and 4

Relevant standard

ABNT NBR ISO 14064-3:2007 (Associação Brasileira de Normas Técnicas)

Proportion of reported emissions verified (%)

100

C10.1b

(C10.1b) Provide further details of the verification/assurance undertaken for your Scope 2 emissions and attach the relevant statements.

Scope 2 approach

Scope 2 location-based

Verification or assurance cycle in place

Annual process

Status in the current reporting year

Complete

Type of verification or assurance

Reasonable assurance

Attach the statement

BR23.00000090_ING_REV 2.pdf

Page/ section reference

Pages 3 and 4

Relevant standard

ABNT NBR ISO 14064-3:2007 (Associação Brasileira de Normas Técnicas)

Proportion of reported emissions verified (%)

100

Scope 2 approach

Scope 2 market-based

Verification or assurance cycle in place

Annual process

Status in the current reporting year

Complete

Type of verification or assurance

Reasonable assurance

Attach the statement

BR23.00000090_ING_REV 2.pdf

Page/ section reference

Pages 3 and 4

Relevant standard

ABNT NBR ISO 14064-3:2007 (Associação Brasileira de Normas Técnicas)

Proportion of reported emissions verified (%)

100

C10.1c

(C10.1c) Provide further details of the verification/assurance undertaken for your Scope 3 emissions and attach the relevant statements.

Scope 3 category

Scope 3: Purchased goods and services

Scope 3: Fuel and energy-related activities (not included in Scopes 1 or 2)

Scope 3: Upstream transportation and distribution

Scope 3: Waste generated in operations

Scope 3: Business travel

Scope 3: Employee commuting

Scope 3: Downstream transportation and distribution

Scope 3: Processing of sold products

Scope 3: End-of-life treatment of sold products

Verification or assurance cycle in place

Annual process

Status in the current reporting year

Complete

Type of verification or assurance

Reasonable assurance

Attach the statement

BR23.00000090_ING_REV 2.pdf

Page/section reference

Pages 3 and 4

Relevant standard

ABNT NBR ISO 14064-3:2007 (Associação Brasileira de Normas Técnicas)

Proportion of reported emissions verified (%)

100

C10.2

(C10.2) Do you verify any climate-related information reported in your CDP disclosure other than the emissions figures reported in C6.1, C6.3, and C6.5?

Yes

C10.2a

(C10.2a) Which data points within your CDP disclosure have been verified, and which verification standards were used?

Disclosure module verification relates to	Data verified	Verification standard	Please explain
C4. Targets and performance	Year on year emissions intensity figure	GRI NBC TO 3000 ISO14064-1 ISO14064-3	Minerva Foods 2022 Sustainability Report was audited by an independent body and was developed based on the main sustainability reporting frameworks – the Global Reporting Initiative (GRI), the Sustainability Accounting Standards Board (SASB), and the Task Force on Climate-Related Financial Disclosures (TCFD). The full report can be accessed at Minerva Foods' website and data is also being updated at the Indicators Center on the Company's sustainability website. Through the Renove Program, Minerva Foods exported carbon neutral beef to customers in the United States, Spain, Italy, Chile, among other countries, from its industrial operations in Brazil and Uruguay. To this end, the partnership farms, the Company's industrial units and logistics operations had their carbon footprints audited and certified with the 'CO ₂ neutral' seal by an independent organization with certification systems in more than 100 countries.
C4. Targets and performance	Product footprint verification	GRI NBC TO 3000 ISO14064-1 ISO14064-3	Minerva Foods 2022 Sustainability Report was audited by an independent body and was developed based on the main sustainability reporting frameworks – the Global Reporting Initiative (GRI), the Sustainability Accounting Standards Board (SASB), and the Task Force on Climate-Related Financial Disclosures (TCFD). The full report can be accessed at Minerva Foods' website and data is also being updated at the Indicators Center on the Company's sustainability website. Through the Renove Program, Minerva Foods exported carbon neutral beef to customers in the United States, Spain, Italy, Chile, among other countries, from its industrial operations in Brazil and Uruguay. To this end, the partnership farms, the Company's industrial units and logistics operations had their carbon footprints audited and certified with the 'CO ₂ neutral' seal by an independent organization with certification systems in more than 100 countries.
C4. Targets and performance	Energy consumption	GRI NBC TO 3000 ISO14064-1 ISO14064-3	Minerva Foods 2022 Sustainability Report was audited by an independent body and was developed based on the main sustainability reporting frameworks – the Global Reporting Initiative (GRI), the Sustainability Accounting Standards Board (SASB), and the Task Force on Climate-Related Financial Disclosures (TCFD). The full report can be accessed at Minerva Foods' website and data is also being updated at the Indicators Center on the Company's sustainability website. Through the Renove Program, Minerva Foods exported carbon neutral beef to customers in the United States, Spain, Italy, Chile, among other countries, from its industrial operations in Brazil and Uruguay. To this end, the partnership farms, the Company's industrial units and logistics operations had their carbon footprints audited and certified with the 'CO ₂ neutral' seal by an independent organization with certification systems in more than 100 countries.
C4. Targets and performance	Waste data	GRI NBC TO 3000 ISO14064-1 ISO14064-3	Minerva Foods 2022 Sustainability Report was audited by an independent body and was developed based on the main sustainability reporting frameworks – the Global Reporting Initiative (GRI), the Sustainability Accounting Standards Board (SASB), and the Task Force on Climate-Related Financial Disclosures (TCFD). The full report can be accessed at Minerva Foods' website and data is also being updated at the Indicators Center on the Company's sustainability website. Through the Renove Program, Minerva Foods exported carbon neutral beef to customers in the United States, Spain, Italy, Chile, among other countries, from its industrial operations in Brazil and Uruguay. To this end, the partnership farms, the Company's industrial units and logistics operations had their carbon footprints audited and certified with the 'CO ₂ neutral' seal by an independent organization with certification systems in more than 100 countries.
C8. Energy	Year on year emissions intensity figure	GRI NBC TO 3000 ISO14064-1 ISO14064-3	Minerva Foods 2022 Sustainability Report was audited by an independent body and was developed based on the main sustainability reporting frameworks – the Global Reporting Initiative (GRI), the Sustainability Accounting Standards Board (SASB), and the Task Force on Climate-Related Financial Disclosures (TCFD). The full report can be accessed at Minerva Foods' website and data is also being updated at the Indicators Center on the Company's sustainability website. Through the Renove Program, Minerva Foods exported carbon neutral beef to customers in the United States, Spain, Italy, Chile, among other countries, from its industrial operations in Brazil and Uruguay. To this end, the partnership farms, the Company's industrial units and logistics operations had their carbon footprints audited and certified with the 'CO ₂ neutral' seal by an independent organization with certification systems in more than 100 countries.
C8. Energy	Product footprint verification	GRI NBC TO 3000 ISO14064-1 ISO14064-3	Minerva Foods 2022 Sustainability Report was audited by an independent body and was developed based on the main sustainability reporting frameworks – the Global Reporting Initiative (GRI), the Sustainability Accounting Standards Board (SASB), and the Task Force on Climate-Related Financial Disclosures (TCFD). The full report can be accessed at Minerva Foods' website and data is also being updated at the Indicators Center on the Company's sustainability website. Through the Renove Program, Minerva Foods exported carbon neutral beef to customers in the United States, Spain, Italy, Chile, among other countries, from its industrial operations in Brazil and Uruguay. To this end, the partnership farms, the Company's industrial units and logistics operations had their carbon footprints audited and certified with the 'CO ₂ neutral' seal by an independent organization with certification systems in more than 100 countries.
C8. Energy	Energy consumption	GRI NBC TO 3000 ISO14064-1 ISO14064-3	Minerva Foods 2022 Sustainability Report was audited by an independent body and was developed based on the main sustainability reporting frameworks – the Global Reporting Initiative (GRI), the Sustainability Accounting Standards Board (SASB), and the Task Force on Climate-Related Financial Disclosures (TCFD). The full report can be accessed at Minerva Foods' website and data is also being updated at the Indicators Center on the Company's sustainability website. Through the Renove Program, Minerva Foods exported carbon neutral beef to customers in the United States, Spain, Italy, Chile, among other countries, from its industrial operations in Brazil and Uruguay. To this end, the partnership farms, the Company's industrial units and logistics operations had their carbon footprints audited and certified with the 'CO ₂ neutral' seal by an independent organization with certification systems in more than 100 countries.
C8. Energy	Waste data	GRI NBC TO 3000 ISO14064-1 ISO14064-3	Minerva Foods 2022 Sustainability Report was audited by an independent body and was developed based on the main sustainability reporting frameworks – the Global Reporting Initiative (GRI), the Sustainability Accounting Standards Board (SASB), and the Task Force on Climate-Related Financial Disclosures (TCFD). The full report can be accessed at Minerva Foods' website and data is also being updated at the Indicators Center on the Company's sustainability website. Through the Renove Program, Minerva Foods exported carbon neutral beef to customers in the United States, Spain, Italy, Chile, among other countries, from its industrial operations in Brazil and Uruguay. To this end, the partnership farms, the Company's industrial units and logistics operations had their carbon footprints audited and certified with the 'CO ₂ neutral' seal by an independent organization with certification systems in more than 100 countries.

C11. Carbon pricing

C11.1

(C11.1) Are any of your operations or activities regulated by a carbon pricing system (i.e. ETS, Cap & Trade or Carbon Tax)?

No, but we anticipate being regulated in the next three years

C11.1d

(C11.1d) What is your strategy for complying with the systems you are regulated by or anticipate being regulated by?

Minerva Foods is striving to reduce its greenhouse gas (GHG) emissions by 30% through efficiency projects and initiatives aimed at reducing its carbon footprint and increase the energy efficiency of its operations by 2030. This target incorporates the intensity of Scope 1 and 2 emissions, as measured by the volume of greenhouse gases emitted, in relation to the finished volume produced, in metric tons. The Company's goal is to achieve net zero emissions by 2035, 15 years ahead of the Paris Agreement.

Minerva Foods manages its GHG emissions through data collection of its operations monthly using an automated tool with the support of a specialized consulting firm. The Sustainability department manages the GHG emissions and the decarbonization plan, submitting reports to the Sustainability Commission and the Sustainability and Innovation Advisory Board.

The largest sources of emissions within Scope 1 direct emissions from Minerva Foods' operations originate from: Effluent Treatment Stations (ETEs) at operating units in South America; and Boilers in Colombia and Argentina, due to the fuels used. Opportunities with the potential to reduce these emissions have been identified based on decarbonization studies. These include projects to modernize effluent treatment to reduce emissions, with the potential to generate and market carbon credits in partnership with MyCarbon.

With respect to Scope 2, Minerva Foods, in partnership with the subsidiary Minerva *Energia* has been purchasing Renewable Energy Certificates (I-RECs) since 2020, offsetting Scope 2 emissions from its operations in all locations, except for Paraguay, where emission levels are already at zero given that the local energy matrix is composed exclusively of renewable sources and does not emit GHGs in the generation of electricity.

In addition, the Company has improved the reporting of its direct and indirect (value chain) GHG emissions each year. Scope 3 reporting began in 2021 for Category 1 – Purchased goods and services (enteric fermentation of purchased animals), Category 4 – Transportation and distribution (upstream), Category 5 – Waste generated in operations, Category 6 – Business travel and Category 7 – Employee commute (home-work). In 2022, the Company carried out a Scope 3 materiality study with the help of a specialized consulting firm, resulting in a complete GHG management of its value chain. In addition to the categories previously reported (see above), the following categories have been included in the GHG inventory for the Brazilian units: 1 - Purchased goods and services (items considered relevant in the materiality study), Category 3 - Fuel and energy not included in Scopes 1 and 2, Category 9 - Downstream transportation and distribution (transportation of green leather to tanneries providing services to Minerva Leather), Category 10 - Processing of sold products and Category 12 - Final treatment of sold products (Minerva Foods product packaging). The new categories, except for categories 3 and 9 which have already been reported, will be included in the inventory for business units in Argentina, Australia, Colombia, Paraguay and Uruguay next year.

As part of the climate agenda, the climate risk (physical and transition) integration project was launched at Minerva Foods in 2022. By contracting a specialized consulting firm, climate change projections combined with the Company's strategic vision in the medium- and long-term horizons (2030 and 2050) are being studied in accordance with TCFD recommendations. In this project a Risk of Emission Regulation is under review

C11.2

(C11.2) Has your organization canceled any project-based carbon credits within the reporting year?

Yes

C11.2a

(C11.2a) Provide details of the project-based carbon credits canceled by your organization in the reporting year.

Project type

Biomass energy

Type of mitigation activity

Emissions reduction

Project description

The biodiesel production division, known as Minerva Biodiesel, has joined RenovaBio, a Brazilian national decarbonization program in the fuel sector, which aims to stimulate increased production and greater participation of biofuels in the country's energy matrix. Decarbonization Credits - CBIOS, are assets that will have a market value and companies that have such credit, such as Minerva Biodiesel, will be able to trade these assets on the Brazilian Stock Exchange (B3).

Credits canceled by your organization from this project in the reporting year (metric tons CO2e)

63886

Purpose of cancellation

Voluntary offsetting

Are you able to report the vintage of the credits at cancellation?

Yes

Vintage of credits at cancellation

2022

Were these credits issued to or purchased by your organization?

Issued

Credits issued by which carbon-crediting program

Other regulatory carbon crediting program, please specify (RenovaBio)

Method(s) the program uses to assess additionality for this project

Not assessed

Approach(es) by which the selected program requires this project to address reversal risk

No risk of reversal

Potential sources of leakage the selected program requires this project to have assessed

Upstream/downstream emissions

Provide details of other issues the selected program requires projects to address

The biodiesel production division, known as Minerva Biodiesel, has joined RenovaBio, a Brazilian national decarbonization program in the fuel sector, which aims to stimulate increased production and greater participation of biofuels in the country's energy matrix. Decarbonization Credits - CBIOS, are assets that will have a market value and companies that have such credit, such as Minerva Biodiesel, will be able to trade these assets on the Brazilian Stock Exchange (B3).

Comment

NA

Project type

Other, please specify (REDD+)

Type of mitigation activity

Emissions reduction

Project description

Pacajá REDD+ project's (VCS 981) main objective is to prevent unplanned deforestation in native forests, thus avoiding 10,564,630 tCO₂e in net emissions over its 41-year duration. This is achieved by developing and implementing a plan to manage the land as a "private conservation reserve". The plan includes rigorous monitoring and enforcement built upon the area's existing surveillance activities, in vigor since 2008. Such scaled-up monitoring activities actively rely on the participation of local villagers, who will be trained in forest management and monitoring techniques. The medium-term goal is to foster forest regeneration, which increases the amount of carbon sequestered in the forest.

Credits canceled by your organization from this project in the reporting year (metric tons CO₂e)

366

Purpose of cancellation

Voluntary offsetting

Are you able to report the vintage of the credits at cancellation?

Yes

Vintage of credits at cancellation

2016

Were these credits issued to or purchased by your organization?

Purchased

Credits issued by which carbon-crediting program

VCS (Verified Carbon Standard)

Method(s) the program uses to assess additionality for this project

Other, please specify (The project followed criteria established by internationally recognized Verra Standard (methodology VCS VM0015).)

Approach(es) by which the selected program requires this project to address reversal risk

Other, please specify (The project followed criteria established by internationally recognized Verra Standard (methodology VCS VM0015).)

Potential sources of leakage the selected program requires this project to have assessed

Other, please specify (The project followed criteria established by internationally recognized Verra Standard (methodology VCS VM0015).)

Provide details of other issues the selected program requires projects to address

The project followed criteria established by internationally recognized Verra Standard (methodology VCS VM0015).

Comment

The Company's e-commerce, 'Meu Minerva', became the first 'carbon neutral' platform in the segment in Brazil in 2022. All services of 'Meu Minerva' are optimized to produce the lowest volume of emissions possible, with MyCarbon providing offsets for emissions that are unavoidable, based on the Company's greenhouse gas inventory. Minerva Foods has purchased 366 Carbon Credits to neutralize the e-commerce footprint.

The Project Area comprises 135,105.6 hectares in 18 privately owned parcels adding up to a total of 148,974.8 Ha in the Portel municipality, located in the Portel micro region.

It is a fast-changing region characterized by forests rich in valuable timber species, illegal logging, unclear land tenure laws, widespread land speculation, overall weak law enforcement and severe poverty. With these variables combined the result cannot be other but the depredation of natural resources in the benefit of few.

Since it started in 2008, the Project has been successful in identifying and removing illegal activities such as logging and squatting.

C11.3

(C11.3) Does your organization use an internal price on carbon?

No, but we anticipate doing so in the next two years

C12. Engagement

C12.1

(C12.1) Do you engage with your value chain on climate-related issues?

Yes, our suppliers

Yes, our customers/clients

Yes, other partners in the value chain

(C12.1a) Provide details of your climate-related supplier engagement strategy.**Type of engagement**

Information collection (understanding supplier behavior)

Details of engagement

Collect GHG emissions data at least annually from suppliers

Collect climate-related risk and opportunity information at least annually from suppliers

Collect climate transition plan information at least annually from suppliers

Collect other climate related information at least annually from suppliers

% of suppliers by number

0.66

% total procurement spend (direct and indirect)

78.17

% of supplier-related Scope 3 emissions as reported in C6.5

96.81

Rationale for the coverage of your engagement

Minerva Foods has determined its Commitments to Sustainability, addressing climate change and protecting ecosystems, as these themes permeate the Company's sustainability strategy and are essential for the perpetuity of its business.

Most of the Company's scope 3 emissions are in Category 1 related to cattle purchases (enteric fermentation and management of cattle lifetime waste). Thus, Minerva Foods aims to support farmers in implementing practices that sequester and store carbon, protect biodiversity and increase climate resilience. To this end, the Company created the Renove Program in 2021, to promote engagement and collaboration with beef suppliers in low-carbon practices and adoption of internationally recognized technologies and methodologies to measure carbon emissions from cattle-farming land. Minerva Foods established that 50% of cattle will be purchased from suppliers participating in the Renove Program by 2030.

Impact of engagement, including measures of success

Renove, the program to engage livestock farmers to implement low-carbon livestock farming, achieved important results throughout 2022.

Through the program, Minerva Foods exported certified carbon-neutral meat to customers in the United States, Spain, Italy, and Chile through Brazil and Uruguay. The partnership farms, the Company's industrial units, and logistics operations had their carbon footprints audited and certified with the 'CO₂ neutral' seal by an independent organization with certification systems in more than 100 countries. The emissions compensation necessary to neutralize the entire process was transacted by MyCarbon, through carbon credits from tree planting and forest preservation projects.

The Renove program also advanced, in a pioneering way, the generation and sale of carbon credits from agriculture in Brazil. To this end, technical cooperation agreements were signed with livestock farmers that supply Minerva Foods, confirming the interest of both parties in converting conventional livestock management practices into regenerative practices that increase productivity and remove or reduce greenhouse gas emissions (GHG). The farms, located in six Brazilian states, are being evaluated in the field by the program's technical team to recover degraded pasture, implement integrated systems — Crop-Livestock-Forest Integration (ILPF) — and the use of food additives in animal feed for the reduction of enteric methane. Partnerships were established to implement these practices with input, financing, and technological innovation companies committed to this common objective: a highly productive agricultural sector with low carbon emissions.

In December 2022, the program published the study "Potential for mitigating greenhouse gas emissions in livestock - Minerva Foods Case Study" with Embrapa and FGV Agro. The report brings the results of the GHG balance of 23 farms suppliers of the Company's cattle from different locations and production systems, calculated using the GHG Protocol Agricultural tool, showing the potential that good practices have in contributing to the fight against climate change.

Comment

NA

Type of engagement

Engagement & incentivization (changing supplier behavior)

Details of engagement

Run an engagement campaign to educate suppliers about climate change

Provide training, support, and best practices on how to set science-based targets

Offer financial incentives for suppliers who reduce your operational emissions (Scopes 1 & 2)

% of suppliers by number

0.66

% total procurement spend (direct and indirect)

78.17

% of supplier-related Scope 3 emissions as reported in C6.5

96.81

Rationale for the coverage of your engagement

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Comment

NA

Type of engagement

Innovation & collaboration (changing markets)

Details of engagement

Run a campaign to encourage innovation to reduce climate impacts on products and services
Invest jointly with suppliers in R&D of relevant low-carbon technologies

% of suppliers by number

0.66

% total procurement spend (direct and indirect)

78.17

% of supplier-related Scope 3 emissions as reported in C6.5

96.81

Rationale for the coverage of your engagement

Minerva Foods has determined its Commitments to Sustainability, addressing climate change and protecting ecosystems, as these themes permeate the Company's sustainability strategy and are essential for the perpetuity of its business.

Most of the Company's scope 3 emissions are in Category 1 related to cattle purchases (enteric fermentation and management of cattle lifetime waste). Thus, Minerva Foods aims to support farmers in implementing practices that sequester and store carbon, protect biodiversity and increase climate resilience. To this end, the Company created the Renove Program in 2021, to promote engagement and collaboration with beef suppliers in low-carbon practices and adoption of internationally recognized technologies and methodologies to measure carbon emissions from cattle-farming land. Minerva Foods established that 50% of cattle will be purchased from suppliers participating in the Renove Program by 2030.

Impact of engagement, including measures of success

Renove, the program to engage livestock farmers to implement low-carbon livestock farming, achieved important results throughout 2022.

Through the program, Minerva Foods exported certified carbon-neutral meat to customers in the United States, Spain, Italy, and Chile through Brazil and Uruguay. The partnership farms, the Company's industrial units, and logistics operations had their carbon footprints audited and certified with the 'CO₂ neutral' seal by an independent organization with certification systems in more than 100 countries. The emissions compensation necessary to neutralize the entire process was transacted by MyCarbon, through carbon credits from tree planting and forest preservation projects.

The Renove program also advanced, in a pioneering way, the generation and sale of carbon credits from agriculture in Brazil. To this end, technical cooperation agreements were signed with livestock farmers that supply Minerva Foods, confirming the interest of both parties in converting conventional livestock management practices into regenerative practices that increase productivity and remove or reduce greenhouse gas emissions (GHG). The farms, located in six Brazilian states, are being evaluated in the field by the program's technical team to recover degraded pasture, implement integrated systems — Crop-Livestock-Forest Integration (ILPF) — and the use of food additives in animal feed for the reduction of enteric methane. Partnerships were established to implement these practices with input, financing, and technological innovation companies committed to this common objective: a highly productive agricultural sector with low carbon emissions.

In December 2022, the program published the study "Potential for mitigating greenhouse gas emissions in livestock - Minerva Foods Case Study" with Embrapa and FGV Agro. The report brings the results of the GHG balance of 23 farms suppliers of the Company's cattle from different locations and production systems, calculated using the GHG Protocol Agricultural tool, showing the potential that good practices have in contributing to the fight against climate change.

Comment

NA

C12.1b

(C12.1b) Give details of your climate-related engagement strategy with your customers.

Type of engagement & Details of engagement

Education/information sharing	Share information about your products and relevant certification schemes (i.e. Energy STAR)
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% of customers by number

0

% of customer - related Scope 3 emissions as reported in C6.5

0

Please explain the rationale for selecting this group of customers and scope of engagement

By engaging customers in the climate agenda and in the decarbonization plan, it will generate a greater demand for carbon neutral products. This will contribute to accelerating the development of the entire value chain for the transition to a low carbon economy.

The carbon neutral beef is a new product that Minerva Foods has developed and the commercialization has started in 2022, this is the reason that there are no many customers involved yet.

Impact of engagement, including measures of success

Through the Renove Program, Minerva Foods exported carbon neutral beef to customers in the United States, Spain, Italy, Chile, among other countries, from its industrial operations in Brazil and Uruguay. To this end, the partnership farms, the Company's industrial units and logistics operations had their carbon footprints audited and certified with the 'CO₂ neutral' seal by an independent organization with certification systems in more than 100 countries.

C12.1d

(C12.1d) Give details of your climate-related engagement strategy with other partners in the value chain.

At the end of 2021, Minerva Foods carried out a new materiality assessment to identify and prioritize relevant topics for the Company's sustainability reports and strategy, based on industry trends, social and environmental challenges and the company's impacts from the point of view of its stakeholders. Carried out with the support of a specialized consultancy, the assessment was based on the GRI Principles and AA1000 Account Ability, covering the social, economic and environmental impacts that influence the perception and decisions of stakeholders.

The exercise consisted of four steps – identification, prioritization, analysis and validation – and included: i) review of internal documents (policies, risk assessment reports, studies, notices and presentations), market research and benchmarking with other global and regional industry players; ii) stakeholder identification and engagement, including a panel with management-level employees (16 participants), online survey (employees, customers, investors, NGOs and trade associations) with 297 responses and interviews with internal (7) and external (5) executives as priority stakeholders. The stakeholders identified for this stage were customers, investors, the third sector (NGOs), professional associations and employees; iii) review and prioritization of material topics according to their impact on society and rankings assigned by stakeholders; iv) validation of the matrix by senior management. Deforestation, biodiversity and GHG emissions, among others, were considered material topics.

In addition, Minerva Foods is involved in partnerships and coalitions aimed at tackling climate change, combating deforestation and promoting sustainability in the sector, including the United Nations Global Compact, which, in 2021, the Company became a signatory and formalized attention to the ten principles that deal with anti-corruption issues, labor relations, environment and human rights. In addition, the Company is committed to the Sustainable Development Goals (SDGs).

The Company participates as a member of the Global Roundtable for Sustainable Beef (GRSB) and its participation in the global table is in line with the Company's strategy of dialogue with stakeholders to promote sustainable livestock. In addition, Minerva Foods participates in Mesa Brasileira da Pecuária Sustentável and the Grupo de Trabalho dos Fornecedores Indiretos (GTFI), where it has the role of contributing to the mission of promoting the sustainable development of Brazilian livestock by solving the challenges present in the sector. In Colombia, the Company participates at Mesa de Ganadería Sostenible de Colombia and has a partnership with CIAT (International Center for Tropical Agriculture) for research on socio-environmental regularity fronts. In Paraguay, Minerva Foods participates in the Mesa Paraguaya de Carne Sostenible (MPCS).

In Brazil, Minerva Foods is a signatory to the 'Public Livestock Commitment', to the Term of Adjustment of Conduct (TAC) with the Federal Public Ministry of Pará and also uses the Protocol for Monitoring Cattle Suppliers in the Amazon in its animal purchasing policy – in partnership with the Federal Public Ministry and Imaflora, using protocol criteria in socio-environmental analyses. Minerva Foods is also a signatory of the National Pact for the Eradication of Slave Labor, in which it has action plans based on the ten commitments of InPacto, among the actions are, for example, guidance campaigns with commercial partners on the subject.

Minerva Foods also has its own initiatives "Talking about Livestock" and "Trust Bond" with the aim of promoting the exchange of information with suppliers through lectures, meetings and communications sent with the most diverse content, including good socio-environmental practices. In addition to these initiatives, Minerva Foods also launched the Renove program in 2021 to support low-carbon livestock.

The Renove program advances in the project to generate carbon credits for agriculture in Brazil. To this end, technical cooperation agreements were signed with livestock suppliers to Minerva Foods, confirming the interest of both parties in converting conventional livestock management practices into regenerative practices that increase productivity and eliminate or reduce greenhouse gas emissions. greenhouse effect (GHG). The farms, located in six Brazilian states, are being evaluated in the field by the program's technical team, with a view to recovering degraded pastures, implementing integrated systems and using food additives in animal feed to reduce enteric methane. To make the implementation of these practices feasible, partnerships were signed with large input, financing and technological innovation companies, committed to this common objective: highly productive agriculture with low carbon emissions.

C12.2

(C12.2) Do your suppliers have to meet climate-related requirements as part of your organization's purchasing process?

No, but we plan to introduce climate-related requirements within the next two years

(C-AC12.2/C-FB12.2/C-PF12.2) Do you encourage your suppliers to undertake any agricultural or forest management practices with climate change mitigation and/or adaptation benefits?

Yes

C-AC12.2a/C-FB12.2a/C-PF12.2a

(C-AC12.2a/C-FB12.2a/C-PF12.2a) Specify which agricultural or forest management practices with climate change mitigation and/or adaptation benefits you encourage your suppliers to undertake and describe your role in the implementation of each practice.

Management practice reference number

MP1

Management practice

Livestock management

Description of management practice

- pasture reform;
 - pasture improvement with rotation;
 - integrated systems (as the Integrated Crop Livestock and Forestry);
 - fertirrigation; manure management;
 - additives in animal feed to reduce enteric fermentation
- reforestation

Your role in the implementation

Financial
Knowledge sharing
Operational

Explanation of how you encourage implementation

Minerva Foods is committed to being carbon neutral by 2035. To this end, the Company launched the Renove program in 2021, which aims to strengthen and implement sustainable livestock farming for low-carbon production. In the Renew Program we are working with some technology options for carbon removals or reduction of emissions for the generation of carbon credits: pasture reform; pasture improvement with rotation; integrated systems (as the Integrated Crop Livestock and Forestry); fertirrigation; manure management; and additives in animal feed to reduce enteric fermentation.

Well-managed areas are less dependent on the use of agrochemicals, since there is a balance of biodiversity, minimizing the contamination of the water table.

These practices of agricultural intensification, allied to legal compliance with the preservation of native forests and protected areas, are widely studied by science, as they guarantee the sustainability and permanence of production systems by promoting biodiversity in a systemic way.

In addition to projects related to agriculture and livestock, we are seeking the development of reforestation projects with strategic partnerships in Brazil. Such as, for example, the implementation of ecological corridors — connecting forest fragments or conservation units, strengthening the transit and dispersion of animal and plant species.

To make the implementation of these practices feasible, partnerships were established with large input, financing and technological innovation companies, committed to this common objective: a highly productive agricultural sector with low carbon emissions.

Climate change related benefit

Emissions reductions (mitigation)
Increasing resilience to climate change (adaptation)
Increase carbon sink (mitigation)

Comment

NA

C-AC12.2b/C-FB12.2b/C-PF12.2b

(C-AC12.2b/C-FB12.2b/C-PF12.2b) Do you collect information from your suppliers about the outcomes of any implemented agricultural/forest management practices you have encouraged?

No

C12.3

(C12.3) Does your organization engage in activities that could either directly or indirectly influence policy, law, or regulation that may impact the climate?

Row 1

External engagement activities that could directly or indirectly influence policy, law, or regulation that may impact the climate

Yes, we engage directly with policy makers

Yes, our membership of/engagement with trade associations could influence policy, law, or regulation that may impact the climate

Yes, we fund organizations or individuals whose activities could influence policy, law, or regulation that may impact the climate

Does your organization have a public commitment or position statement to conduct your engagement activities in line with the goals of the Paris Agreement?

Yes

Attach commitment or position statement(s)

Minerva-Foods-Commitment-with-Sustainability.pdf

Describe the process(es) your organization has in place to ensure that your external engagement activities are consistent with your climate commitments and/or climate transition plan

Minerva Foods is involved in partnerships and coalitions aimed at addressing climate change, combating deforestation and driving sustainability in the sector, and in 2021, became a signatory to the United Nations Global Compact, the largest sustainability movement on the planet, comprising strategic policy initiatives for companies committed to developing universal principles of Human Rights, Labor, Environment and Anti-corruption, in addition to supporting the achievement of the 17 SDGs established by the UN by 2030.

The move is part of the Company's sustainability strategy and reinforces the work carried out in recent years with a focus on promoting the ESG agenda in all links in the chain.

Minerva Foods also actively participates as a member of the Global Roundtable for Sustainable Beef, made up of experts, academics and large companies from 4 continents, in which the company has the role of sharing management practices, maintain a constructive dialogue on global industry paths and strengthen beef industry sustainable best practices. The Company's participation in the global table is in line with the company's strategy of dialogue with stakeholders for the production of legal and sustainable livestock.

In addition, Minerva Foods participates in Mesa Brasileira de Pecuária Sustentável and Grupo de Trabalho de Fornecedores Indiretos (GTFI), where it has the role of contributing to the mission to promote the sustainable development of Brazilian livestock by solving the challenges present in the sector. In Colombia, the Company participates in the Mesa de Ganadería Sostenible de Colombia and has a partnership with International Center for Tropical Agriculture for investigations on the fronts of social and environmental regularity. In Paraguay, Minerva Foods participates in the Mesa Paraguaya de Carne Sostenible (MPCS).

In Brazil, Minerva Foods is a signatory to the 'Public Livestock Commitment', to the Term of Adjustment of Conduct (TAC) with the Federal Public Ministry of Pará and also uses the Protocol for Monitoring Cattle Suppliers in the Amazon in its animal purchasing policy – in partnership with the Federal Public Ministry and Imaflora, using protocol criteria in socio-environmental analyses. Minerva Foods is also a signatory of the National Pact for the Eradication of Slave Labor, in which it has action plans based on the ten commitments of InPacto, among the actions are, for example, guidance campaigns with commercial partners on the subject.

Primary reason for not engaging in activities that could directly or indirectly influence policy, law, or regulation that may impact the climate

<Not Applicable>

Explain why your organization does not engage in activities that could directly or indirectly influence policy, law, or regulation that may impact the climate

<Not Applicable>

C12.3a

(C12.3a) On what policy, law, or regulation that may impact the climate has your organization been engaging directly with policy makers in the reporting year?

Specify the policy, law, or regulation on which your organization is engaging with policy makers

RenovaBio: a Brazilian program for the decarbonization of the fuel sector, which aims to encourage increased production and greater participation of Biofuels in the country's energy matrix

Category of policy, law, or regulation that may impact the climate

Carbon pricing, taxes, and subsidies

Focus area of policy, law, or regulation that may impact the climate

Emissions trading schemes

Policy, law, or regulation geographic coverage

National

Country/area/region the policy, law, or regulation applies to

Brazil

Your organization's position on the policy, law, or regulation

Support with no exceptions

Description of engagement with policy makers

By joining the program, Minerva Biodiesel is authorized to negotiate decarbonization credits, the C-BIOS. RenovaBio, a nation-wide program to reduce GHG emissions, launched by the Federal Government as part of its commitments as a signatory of the Paris Agreement. CBios credits also amplify the Company's ability to generate economic benefits, attract investors and gain faster access to more competitive finance

Details of exceptions (if applicable) and your organization's proposed alternative approach to the policy, law or regulation

<Not Applicable>

Have you evaluated whether your organization's engagement on this policy, law, or regulation is aligned with the goals of the Paris Agreement?

Yes, we have evaluated, and it is aligned

Please explain whether this policy, law or regulation is central to the achievement of your climate transition plan and, if so, how?

<Not Applicable>

Specify the policy, law, or regulation on which your organization is engaging with policy makers

United Nations Global Compact: the Company endorsed its commitment and continued support for the Ten Principles of the United Nations Global Compact and the Sustainable Development Goals (SDGs).

Category of policy, law, or regulation that may impact the climate

Climate change mitigation

Focus area of policy, law, or regulation that may impact the climate

Traceability requirements

Policy, law, or regulation geographic coverage

Global

Country/area/region the policy, law, or regulation applies to

<Not Applicable>

Your organization's position on the policy, law, or regulation

Support with no exceptions

Description of engagement with policy makers

In 2021, the Company joined the United Nations Global Compact. Coupled with Minerva Foods' commitment to the Sustainable Development Goals (SDGs), the Company's support for the Global Compact formalizes its efforts in ten principles in the areas of anti-corruption, labor, environment and human rights.

Details of exceptions (if applicable) and your organization's proposed alternative approach to the policy, law or regulation

<Not Applicable>

Have you evaluated whether your organization's engagement on this policy, law, or regulation is aligned with the goals of the Paris Agreement?

Yes, we have evaluated, and it is aligned

Please explain whether this policy, law or regulation is central to the achievement of your climate transition plan and, if so, how?

<Not Applicable>

C12.3b

(C12.3b) Provide details of the trade associations your organization is a member of, or engages with, which are likely to take a position on any policy, law or regulation that may impact the climate.

Trade association

Other, please specify (Brazilian Beef Exporters Association (ABIEC))

Is your organization's position on climate change policy consistent with theirs?

Consistent

Has your organization attempted to influence their position in the reporting year?

No, we did not attempt to influence their position

Describe how your organization's position is consistent with or differs from the trade association's position, and any actions taken to influence their position

ABIEC (Brazilian Beef Exporters Association) publishes on its institutional website data regarding the the meat sector and cattle ranching practices in Brazil. ABIEC also participates in the International Meat Secretariat (IMS) and is part of its Board of Directors. To deal with issues that are vital to the international meat production sector, IMS has several committees, including the Sustainable Meat Committee. In addition, IMS also proposed in 2015, by signing the Paris Agreement, a commitment, to which ABIEC is a signatory, to mitigate climate change through a series of initiatives and practices that can contribute to reducing emissions greenhouse gases and to increase the efficiency of production with regard to environmental preservation.

Funding figure your organization provided to this trade association in the reporting year (currency as selected in C0.4)

862588

Describe the aim of your organization's funding

ABIEC (Brazilian Beef Exporters Association) is an association that represents the interests of Brazilian companies involved in the production and export of beef. By joining ABIEC, Minerva Foods benefits in several ways, as ABIEC acts as a collective voice for companies in the meat export sector, representing their interests before the government, regulatory bodies and other relevant stakeholders. Participation in the association allows the Company to have greater influence on decisions that affect the sector.

In addition, there is also access to information, support services and networking, as ABIEC provides up-to-date information on the meat export market, trends, regulations and commercial opportunities. In addition, the association promotes events and activities that facilitate networking between companies in the sector, enabling the exchange of experiences and the establishment of commercial partnerships.

Finally, ABIEC works to promote Brazilian beef in international markets, seeking to consolidate Brazil's image as a reliable and quality supplier. The participation of companies in the association can help strengthen their reputation and open doors for new business abroad

Have you evaluated whether your organization's engagement with this trade association is aligned with the goals of the Paris Agreement?

Yes, we have evaluated, and it is aligned

C12.3c

(C12.3c) Provide details of the funding you provided to other organizations or individuals in the reporting year whose activities could influence policy, law, or regulation that may impact the climate.

Type of organization or individual

Other, please specify (Global Roundtable for Sustainable Beef (GRSB))

State the organization or individual to which you provided funding

The GRSB mission is to advance, support, and communicate continuous improvement in sustainability of the global beef value chain through leadership, science, and multi-stakeholder engagement and collaboration.

Funding figure your organization provided to this organization or individual in the reporting year (currency as selected in C0.4)

102253

Describe the aim of this funding and how it could influence policy, law or regulation that may impact the climate

Formed by experts, academics and large companies from four continents, the GRSB aims to share management practices and maintain a constructive dialogue on the directions of the global meat industry.

As an associate, Minerva Foods increases the representation of the South American continent, which is the largest meat producer in the world, in global discussions. The company operates transparently in the face of the chain's challenges and actively participates in investor and shareholder forums.

It is worth highlighting the Company's participation in the organization's regional forums such as the Mesa Brasileira de Pecuária Sustentável in Brazil, the Mesa Paraguaya de Carne Sostenible (MPCS) in Paraguay, and the Mesa de Ganadería Sostenible in Colombia.

Have you evaluated whether this funding is aligned with the goals of the Paris Agreement?

Yes, we have evaluated, and it is aligned

C12.4

(C12.4) Have you published information about your organization's response to climate change and GHG emissions performance for this reporting year in places other than in your CDP response? If so, please attach the publication(s).

Publication

In mainstream reports

Status

Complete

Attach the document

Formulário de Referência 2022.pdf

Page/Section reference

4.2 Description of Main Market Risks, page 48
 5.Risk Management and internal control, page 87
 7. Information About Products And Services Relating To Operating Segments, page 114

Content elements

Strategy
 Risks & opportunities
 Emission targets

Comment

NA

Publication

In voluntary sustainability report

Status

Complete

Attach the document

sustainability-report-2022-minerva-foods_compressed.pdf

Page/Section reference

19 to 46 and 83 to 85

Content elements

Governance
 Strategy
 Risks & opportunities
 Emissions figures
 Emission targets

Comment

NA

C12.5

(C12.5) Indicate the collaborative frameworks, initiatives and/or commitments related to environmental issues for which you are a signatory/member.

	Environmental collaborative framework, initiative and/or commitment	Describe your organization's role within each framework, initiative and/or commitment
Row 1	Task Force on Climate-related Financial Disclosures (TCFD) UN Global Compact Other, please specify (GRSB; FTFI; IMPCS; MGSC; InPacto; Mesa Brasileira de Pecuária Sustentável)	Minerva Foods 2022 Sustainability Report was prepared in accordance with the rules of the Global Reporting Initiative (GRI), the Sustainability Accounting Standards Board (SASB) of the Value Reporting Foundation (VRF) and recommendations provided by the Task Force on Climate-related Financial Disclosures (TCFD). In addition, it references the Collier FAIRR Protein Producer Index, the Business Benchmarking on Farming Welfare (BBFAW), the Climate Disclosure Project (CDP) of Insight Disclosure Action, and the reporting elements for the Corporate Sustainability Index (ISE), in addition to the Carbon Efficient Index (ICO2) of the Brazilian Stock Exchange B3. This publication also highlights, Minerva Foods' commitment to the Ten Principles of the United Nations (UN) Global Compact and the Sustainable Development Goals (SDGs). Minerva Foods is involved in partnerships and coalitions aimed at addressing climate change, combating deforestation and driving sustainability in the sector, and in 2021, became a signatory to the United Nations Global Compact, the largest sustainability movement on the planet, comprising strategic policy initiatives for companies committed to developing universal principles of Human Rights, Labor, Environment and Anti-corruption, in addition to supporting the achievement of the 17 SDGs established by the UN by 2030. The move is part of the Company's sustainability strategy and reinforces the work carried out in recent years with a focus on promoting the ESG agenda in all links in the chain. Minerva Foods also actively participates as a member of the Global Roundtable for Sustainable Beef (GRSB), made up of experts, academics and large companies from 4 continents, in which the company has the role of sharing management practices, maintain a constructive dialogue on global industry paths and strengthen beef industry sustainable best practices. The Company's participation in the global table is in line with the company's strategy of dialogue with stakeholders for the production of legal and sustainable livestock. In addition, Minerva Foods participates in Mesa Brasileira de Pecuária Sustentável and Grupo de Trabalho de Fornecedores Indiretos (GTFI), where it has the role of contributing to the mission to promote the sustainable development of Brazilian livestock by solving the challenges present in the sector. In Colombia, the Company participates in the Mesa de Ganadería Sostenible de Colombia and has a partnership with International Center for Tropical Agriculture for investigations on the fronts of social and environmental regularity. In Paraguay, Minerva Foods participates in the Mesa Paraguaya de Carne Sostenible (MPCS). In Brazil, Minerva Foods is a signatory to the 'Public Livestock Commitment', to the Term of Adjustment of Conduct (TAC) with the Federal Public Ministry of Pará and also uses the Protocol for Monitoring Cattle Suppliers in the Amazon in its animal purchasing policy – in partnership with the Federal Public Ministry and Imaflo, using protocol criteria in socio-environmental analyses. Minerva Foods is also a signatory of the National Pact for the Eradication of Slave Labor, in which it has action plans based on the ten commitments of InPacto, among the actions are, for example, guidance campaigns with commercial partners on the subject

C13. Other land management impacts

(C-AC13.2/C-FB13.2/C-PF13.2) Do you know if any of the management practices mentioned in C-AC12.2a/C-FB12.2a/C-PF12.2a that were implemented by your suppliers have other impacts besides climate change mitigation/adaptation?

No

C15. Biodiversity

C15.1

(C15.1) Is there board-level oversight and/or executive management-level responsibility for biodiversity-related issues within your organization?

	Board-level oversight and/or executive management-level responsibility for biodiversity-related issues	Description of oversight and objectives relating to biodiversity	Scope of board-level oversight
Row 1	Yes, executive management-level responsibility	<p>Minerva Foods has established two key initiatives to protect biodiversity: forest conservation by eliminating illegal deforestation in its value chain and technology development for its partner cattle ranchers through the Renove program. This approach addresses the potential impacts on biodiversity along the Company's value chain, such as deforestation to clear land for grazing, improper use of fertilizers and agrochemicals which could result in runoff eutrophication of rivers and lakes, and groundwater contamination.</p> <p>Addressing forest conservation and biodiversity, in 2022, the Company monitored: more than 600,000 hectares in the Amazon biome, for a total of more than 9 million hectares monitored throughout the years; 1.83 million hectares in the Cerra - do, for a total of more than 6 million hectares monitored throughout the years; and more than 1 million hectares in other biomes - Caatinga, Atlantic Forest, and Pantanal. All in all, the Company, based on socio-environmental criteria to combat illegal deforestation, monitored more than 16 million hectares and more than 19,000 suppliers throughout Brazil for 2022. In Paraguay, the Company monitors over 14 million hectares among 4,000 suppliers; over 1 million hectares in Colombia and 3 million in Argentina.</p> <p>The Renove program encourages conservation of biodiversity beyond legally protected areas through its partnerships. Rural producers are encouraged to conserve native vegetation through financial compensation for environmental practices, primarily via the carbon credit market. Also, the practices of livestock intensification, together with compliance of legal regulations for the preservation of native forests and protected areas guarantee the sustainability and long-term viability of the production systems. With these initiatives, Minerva Foods has advanced regenerative livestock production, leading to increased productivity through the integration of practices that work in synergy to conserve native forest areas and ensure the conservation of biodiversity.</p> <p>Moreover, in 2022, Minerva Foods joined the Floresta Viva Project, which works to restore ecosystems using native species and agroforestry practices in the Brazilian biome. It is projected to achieve between 20 to 30 thousand hectares of restored vegetation and, based on a vegetation growth cycle of 25 years, the removal of seven to ten million tons of carbon dioxide from the atmosphere.</p>	<Not Applicable>

C15.2

(C15.2) Has your organization made a public commitment and/or endorsed any initiatives related to biodiversity?

	Indicate whether your organization made a public commitment or endorsed any initiatives related to biodiversity	Biodiversity-related public commitments	Initiatives endorsed
Row 1	Yes, we have made public commitments and publicly endorsed initiatives related to biodiversity	<p>Commitment to not explore or develop in legally designated protected areas</p> <p>Commitment to respect legally designated protected areas</p> <p>Commitment to no conversion of High Conservation Value areas</p> <p>Commitment to secure Free, Prior and Informed Consent (FPIC) of Indigenous Peoples</p>	SDG

C15.3

(C15.3) Does your organization assess the impacts and dependencies of its value chain on biodiversity?

Impacts on biodiversity

Indicate whether your organization undertakes this type of assessment

No, but we plan to within the next two years

Value chain stage(s) covered

<Not Applicable>

Portfolio activity

<Not Applicable>

Tools and methods to assess impacts and/or dependencies on biodiversity

<Not Applicable>

Please explain how the tools and methods are implemented and provide an indication of the associated outcome(s)

<Not Applicable>

Dependencies on biodiversity

Indicate whether your organization undertakes this type of assessment

No, but we plan to within the next two years

Value chain stage(s) covered

<Not Applicable>

Portfolio activity

<Not Applicable>

Tools and methods to assess impacts and/or dependencies on biodiversity

<Not Applicable>

Please explain how the tools and methods are implemented and provide an indication of the associated outcome(s)

<Not Applicable>

C15.4

(C15.4) Does your organization have activities located in or near to biodiversity- sensitive areas in the reporting year?

Not assessed

C15.5

(C15.5) What actions has your organization taken in the reporting year to progress your biodiversity-related commitments?

	Have you taken any actions in the reporting period to progress your biodiversity-related commitments?	Type of action taken to progress biodiversity- related commitments
Row 1	Yes, we are taking actions to progress our biodiversity-related commitments	Land/water protection Land/water management Education & awareness

C15.6

(C15.6) Does your organization use biodiversity indicators to monitor performance across its activities?

	Does your organization use indicators to monitor biodiversity performance?	Indicators used to monitor biodiversity performance
Row 1	Yes, we use indicators	Other, please specify (The Company reports the indicator GRI 304-2, in the Sustainability Report 2022.)

C15.7

(C15.7) Have you published information about your organization's response to biodiversity-related issues for this reporting year in places other than in your CDP response? If so, please attach the publication(s).

Report type	Content elements	Attach the document and indicate where in the document the relevant biodiversity information is located
In mainstream financial reports	Risks and opportunities Biodiversity strategy	Reference Form 2023, Page 4, page 54 to 58 and 124 to125. Sustainability Report 2022, page 44-45.
In voluntary sustainability report or other voluntary communications	Risks and opportunities Biodiversity strategy	Reference Form 2023, Page 4, page 54 to 58 and 124 to125. Sustainability Report 2022, page 44-45.

C16. Signoff

(C-FI) Use this field to provide any additional information or context that you feel is relevant to your organization's response. Please note that this field is optional and is not scored.

C16.1

(C16.1) Provide details for the person that has signed off (approved) your CDP climate change response.

	Job title	Corresponding job category
Row 1	Chief Executive Officer (CEO)	Chief Executive Officer (CEO)

SC. Supply chain module

SC0.0

(SC0.0) If you would like to do so, please provide a separate introduction to this module.

Minerva Foods is a publicly traded Brazilian company with a global presence, exporting its products to more than 100 countries on five continents. At the end of 2022, the Company's net revenue was R\$31.0 billion, with an Adjusted EBITDA of R\$3.1 billion and a net income of R\$655.1 million.

Its operations encompass the processing and sales of animal protein and by-products, in addition to operating in the carbon credits market, through its subsidiary MyCarbon, and energy in Brazil.

The Company is the leader in beef exports in South America with a market share of approximately 20% and, in 2022, produced and processed 1,223.7 thousand tons of beef in the region. Minerva Foods also has a workforce of more than 23,000 employees in South America and Australia. The Company obtains, processes and markets animal protein through an integrated, geographically diversified and flexible business platform, comprising 32 industrial units (slaughter, deboning and processing) in Brazil, Argentina, Colombia, Paraguay, Uruguay and Australia. Completing its operations are 14 own and third-party distribution centers in South America (11 in Brazil, 1 in Chile, 1 in Argentina, 1 in Colombia and 1 in Paraguay), 12 international commercial offices (Algeria, Australia, Chile, China, Egypt, United Arab Emirates, United States, Italy, Lebanon, United Kingdom, Russia and Taiwan), one food processing plant in Brazil (Minerva Foods Industrializados) and two operating under the Swift brand in Argentina.

Starting a new chapter in its 30-year history, in 2021 the Company updated its brand to reflect the evolution that has made Minerva Foods a modern, disruptive and innovative business, committed to creating a sustainable food future for our planet. Minerva Foods is deeply committed to sustainability in such a way that this value is embedded in its institutional culture. With the aim of prioritizing and optimizing initiatives and investments and generating strategic partnerships, Minerva Foods' ESG agenda (environmental, social and corporate governance) was organized around three pillars: Dedication to the Planet, Prosperity of Our People and Product Quality and Respect for life. In April 2021, Minerva Foods publicly disclosed its Commitment to Sustainability focused on the environmental pillar 'Dedication to the Planet'. The commitment aims to achieve zero net emissions by 2035 – 15 years ahead of the Paris Agreement – and for this purpose the Company has defined a series of goals focused on combating illegal deforestation and promoting sustainable livestock practices in its value chain. For this, Minerva Foods is working on three major axes: 1. Eco-efficiency in controlled operations; 2. Combating illegal deforestation in the value chain; and 3. Development of the Renove program on partner farms.

1. Eco-efficiency in controlled operations:

1.1 Reduce the intensity of greenhouse gas emissions in scopes 1 and 2 by 30% by 2030;

1.2 Invest in technologies that reduce greenhouse gas emissions in Effluent Treatment Stations; and

1.3 Maintain zero net emissions in Scope 2, through investment and incentives for the production of electricity from renewable sources (goal already achieved since 2020).

2. Combating illegal deforestation in the value chain:

2.1 Expand the coverage of the geomonitoring system for direct supplier farms in South America by 2030 (Brazil and Paraguay already monitor 100% of direct supplier farms); and

2.2 Develop and implement a program to monitor indirect supplier farms in South America by 2030;

3. Development of the Renove program on partner farms:

3.1 In 2030, purchase at least 50% of animals from supplier farms participating in the Renew program;

3.2 Apply internationally recognized methodologies with scientific rigor to measure the carbon footprint of farms, within a monitored, reported and verified system, and support the implementation of low carbon emission practices; and

3.3 Support the restoration of native vegetation in line with the United Nations Decade of Ecosystem Restoration, providing co-benefits for Biodiversity.

SC0.1

(SC0.1) What is your company's annual revenue for the stated reporting period?

	Annual Revenue
Row 1	30977769

SC1.1

(SC1.1) Allocate your emissions to your customers listed below according to the goods or services you have sold them in this reporting period.

Requesting member

Accor

Scope of emissions

Scope 2

Scope 2 accounting method

Location-based

Scope 3 category(ies)

<Not Applicable>

Allocation level

Company wide

Allocation level detail

<Not Applicable>

Emissions in metric tonnes of CO2e

17974275

Uncertainty (±%)

Major sources of emissions

Total of Minerva Foods emission in 2022.

- Brazil: Araraquara (Distribution Center), Minerva Foods Industrializados (Processed), Araguaína (Food Industry), Barretos (Food Industry), Barretos Corporate Office (Administrative unit), Campina Verde (Food Industry), Goianésia (Food Industry), Janaúba (Food Industry), José Bonifácio (Food Industry), Mirassol d'Oeste (Food Industry), Palmeiras de Goiás (Food Industry), Paranatinga (Food Industry), Rolim de Moura (Food Industry), Minerva Biodiesel (Minerva Foods Business) and Minerva Casings (Minerva Foods Business), Minerva Foods Shop (Minerva Foods Business), São Paulo Corporate Office (Administrative unit), São Paulo - Villa Lobos Corporate Office (Administrative unit), Minerva Leather (Minerva Foods Business), CSAP – Altinópolis (Minerva Foods Farms), CSAP – Araguaína (Minerva Foods Farms), CSAP – Buritama (Minerva Foods Farms), CSAP – Morada da Lua (Minerva Foods Farms), CSAP – Rolim de Moura (Minerva Foods Farms), CSAP – Sela da Prata (Minerva Foods Farms) and CSAP – Vale do Paciência (Minerva Foods Farms), Minera Energia (Minerva Foods Business), Minerva Ingredients (Minerva Foods Business) and Meu Minerva (e-commerce) (Minerva Foods Business).

- Paraguay:

Asunción - plant 2 (Food Industry), Asunción - plant 8 (Food Industry), Belén (Food Industry) and San Antonio (Food Industry),

- Argentina: Pilar (Processed), Pontevedra (Food Industry), Rosario (Food Industry) and Venado Tuerto (Food Industry)

- Colombia:

Bucaramanga (Food Industry) and Ciénaga de Oro (Food Industry).

- Uruguay:

Canelones (Food Industry), Carrasco (Food Industry) and Melo (Food Industry) Australia: Esperance (Food Industry), Tammin (Food Industry),

Verified

Yes

Allocation method

Other, please specify (Data regarding the company's total emissions)

Market value or quantity of goods/services supplied to the requesting member

Unit for market value or quantity of goods/services supplied

Please select

Please explain how you have identified the GHG source, including major limitations to this process and assumptions made

Requesting member

Ahold Delhaize

Scope of emissions

Scope 2

Scope 2 accounting method

Location-based

Scope 3 category(ies)

<Not Applicable>

Allocation level

Company wide

Allocation level detail

<Not Applicable>

Emissions in metric tonnes of CO2e

Uncertainty (±%)

Major sources of emissions

Total of Minerva Foods emission in 2022.

- Brazil: Araraquara (Distribution Center), Minerva Foods Industrializados (Processed), Araguaína (Food Industry), Barretos (Food Industry), Barretos Corporate Office (Administrative unit), Campina Verde (Food Industry), Goianésia (Food Industry), Janaúba (Food Industry), José Bonifácio (Food Industry), Mirassol d'Oeste (Food Industry), Palmeiras de Goiás (Food Industry), Paranatinga (Food Industry), Rolim de Moura (Food Industry), Minerva Biodiesel (Minerva Foods Business) and Minerva Casings (Minerva Foods Business), Minerva Foods Shop (Minerva Foods Business), São Paulo Corporate Office (Administrative unit), São Paulo - Villa Lobos Corporate Office (Administrative unit), Minerva Leather (Minerva Foods Business), CSAP – Altinópolis (Minerva Foods Farms), CSAP – Araguaína (Minerva Foods Farms), CSAP – Buritama (Minerva Foods Farms), CSAP – Morada da Lua (Minerva Foods Farms), CSAP – Rolim de Moura (Minerva Foods Farms), CSAP – Sela da Prata (Minerva Foods Farms) and CSAP – Vale do Paciência (Minerva Foods Farms), Minerva Energia (Minerva Foods Business), Minerva Ingredients (Minerva Foods Business) and Meu Minerva (e-commerce) (Minerva Foods Business).

- Paraguay:

Asunción - plant 2 (Food Industry), Asunción - plant 8 (Food Industry), Belén (Food Industry) and San Antonio (Food Industry),

- Argentina: Pilar (Processed), Pontevedra (Food Industry), Rosario (Food Industry) and Venado Tuerto (Food Industry)

- Colombia:

Bucaramanga (Food Industry) and Ciénaga de Oro (Food Industry).

- Uruguay:

Canelones (Food Industry), Carrasco (Food Industry) and Melo (Food Industry) Australia: Esperance (Food Industry), Tammin (Food Industry),

Verified

Yes

Allocation method

Other, please specify (Data regarding the company's total emissions)

Market value or quantity of goods/services supplied to the requesting member

Unit for market value or quantity of goods/services supplied

Please select

Please explain how you have identified the GHG source, including major limitations to this process and assumptions made

SC1.2

(SC1.2) Where published information has been used in completing SC1.1, please provide a reference(s).

All the information is available at Minerva Foods' Sustainability Report that was prepared in accordance with the rules of the Global Reporting Initiative (GRI), the Sustainability Accounting Standards Board (SASB) of the Value Reporting Foundation (VRF) and recommendations provided by the Task Force on Climate-related Financial Disclosures (TCFD). In addition, it references the Collier FAIRR Protein Producer Index, the Business Benchmarking on Farming Welfare (BBFAW), the Climate Disclosure Project (CDP) of Insight Disclosure Action, and the reporting elements for the Corporate Sustainability Index (ISE), in addition to the Carbon Efficient Index (ICO2) of the Brazilian Stock Exchange B3. The Report publication also highlights, Minerva Foods' commitment to the Ten Principles of the United Nations (UN) Global Compact and the Sustainable Development Goals (SDGs). Minerva Foods Sustainability Report was submitted for external validation, conducted by SGS DO BRASIL LTDA.

Minerva Foods' GHG inventories were audited and received the Gold Seal of the Brazilian GHG Protocol Program in 2020 and 2021. The 2022 inventory is also eligible to get a "Gold Seal" once again. All data from GHG Inventory since 2015 are available at the Programa Brasileiro GHG Protocol Website (<https://registropublicodeemissoes.fgv.br/>).

SC1.3

(SC1.3) What are the challenges in allocating emissions to different customers, and what would help you to overcome these challenges?

Allocation challenges	Please explain what would help you overcome these challenges
Customer base is too large and diverse to accurately track emissions to the customer level	The Company is the leader in beef exports in South America with a market share of approximately 20% and, in 2022, produced and processed 1,223.7 thousand tons of beef in the region. The Company obtains, processes and markets animal protein through an integrated, geographically diversified, and flexible business platform, comprising 32 industrial units (slaughter, deboning and processing) in Brazil, Argentina, Colombia, Paraguay, Uruguay, and Australia. Completing its operations are 14 own and third-party distribution centres in South America (11 in Brazil, 1 in Chile, 1 in Argentina, 1 in Colombia and 1 in Paraguay), 12 international commercial offices (Algeria, Australia, Chile, China, Egypt, United Arab Emirates, United States, Italy, Lebanon, United Kingdom, Russia and Taiwan), one food processing plant in Brazil (Minerva Foods Industrializados) and two operating under the Swift brand in Argentina. In 2022, the Company had over 38,000 potential supplier farms in South America in its register. Livestock production in the region is diverse in production systems, so GHG emissions can also vary greatly by product. To segregate emissions by customer, a product life cycle analysis would be necessary considering different types of supplying farms. In its Commitment to Sustainability, Minerva Foods committed to reducing the intensity of its GHG emissions by 30% by 2030, considering scopes 1 and 2.

SC1.4

(SC1.4) Do you plan to develop your capabilities to allocate emissions to your customers in the future?

No

SC1.4b

(SC1.4b) Explain why you do not plan to develop capabilities to allocate emissions to your customers.

Minerva Foods has no plans to develop capabilities to allocate emissions to customers as to date there has been not significantly demand for this practice.

Minerva Foods launched in 2021 its Commitment to Sustainability which main objective is to drive Minerva Foods' transition to a low-carbon economy, achieving carbon neutrality by 2035, 15 years ahead of the Paris Agreement. To achieve this, the Company is working on three major axes: 1. Eco-efficiency in controlled operations; 2. Combating illegal deforestation in the value chain; and 3. Development of the Renove program on partner farms.

GHG emissions management is realized through data collection of its operations monthly using an automated tool with the support of a specialized consulting firm. The Sustainability department manages the GHG emissions and the decarbonization plan, submitting reports to the Sustainability Commission and the Sustainability and Innovation Advisory Board.

The Company has improved the reporting of its direct and indirect (value chain) GHG emissions each year. The GHG emission inventory is calculated since 2015 at Minerva Foods, and the Scope 3 reporting began in 2021 for Category 1 – Purchased goods and services (enteric fermentation and waste management of purchased animals), Category 4 - Transportation and distribution (upstream), Category 5 - Waste generated in operations, Category 6 - Business travel and Category 7 - Employee commute (home-work). In 2022 the Company carried out a Scope 3 materiality study with the help of a specialized consulting firm, resulting in a complete GHG management of its value chain. In addition to the categories previously reported, the following categories have been included in the GHG inventory for the Brazilian units: Category 1 – Purchased goods and services (items considered relevant in the materiality study) Category 3 - Fuel and energy not included in Scopes 1 and 2 Category 9 - Downstream transportation and distribution (transportation of green leather to tanneries providing services to Minerva Leather) Category 10 - Processing of sold products Category 12 – Final treatment of sold products (Minerva Foods product packaging). The new categories, with the exception of categories 3 and 9 which have already been reported, will be included in the inventory for units in Latam and Australia next year.

The Company carried out this Scope 3 materiality study with the same specialized consultancy that carried out the Scope 1 and 2 study, resulting in a complete GHG management of its value chain.

With all these actions in place, the Company aims to ensure that its climate transition plan is the most concise with the best market practices and updated in scientific terms.

Minerva Foods' GHG inventories were audited and received the Gold Seal of the Brazilian GHG Protocol Program in 2020 and 2021. The 2022 inventory is also eligible to get a "Gold Seal" once again. All data from GHG Inventory since 2015 are available at the Programa Brasileiro GHG Protocol Website. (<https://registropublicodeemissoes.fgv.br/>).

As a key climate action, Minerva Foods created the Renove Program. Its purpose is to promote engagement and joint action with rural producers in the adoption of regenerative farming practices that increase productivity and income, in addition to benefiting the environment through lower carbon emissions and sustainable intensification of cattle ranching. The Renove Program is based on three key components: Capacity Building, Green Finance, and Technical and Institutional Partnerships. In the Carbon Project, in partnership with Bioflica Ambipar Environment, cooperation agreements were signed with cattle suppliers confirming the interest in converting conventional livestock management practices into regenerative practices that increase productivity and remove or reduce GHG emissions. The farms, located in six Brazilian states, are being evaluated in the field by the program's technical team, with a view to recovering degraded pasture, implementing integrated systems - Crop-Livestock-Forest Integration (ILPF) - and the use of food additives in animal feed for the reduction of enteric methane. To make the implementation of these practices feasible, partnerships were established with large input, financing, and technological innovation companies. Through the Renove Program, Minerva Foods exported its Carbon Neutral Beef to customers in the United States, Spain, Italy, Chile, among other countries, from its industrial operations in Brazil and Uruguay. To this end, the partnership farms, the Company's industrial units and logistics operations had their carbon footprints audited and certified with the 'CO₂ neutral' seal by an independent organization with certification systems in more than 100 countries.

SC2.1

(SC2.1) Please propose any mutually beneficial climate-related projects you could collaborate on with specific CDP Supply Chain members.

SC2.2

(SC2.2) Have requests or initiatives by CDP Supply Chain members prompted your organization to take organizational-level emissions reduction initiatives?

No

SC4.1

(SC4.1) Are you providing product level data for your organization's goods or services?

No, I am not providing data

Submit your response

In which language are you submitting your response?

English

Please confirm how your response should be handled by CDP

	I understand that my response will be shared with all requesting stakeholders	Response permission
Please select your submission options	Yes	Public

Please confirm below

I have read and accept the applicable Terms

